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TRW DEFENSE AND SPACE SYSTEMS GROUP REDONDO BEACH CA

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EVALUATION OF DCS III TRANSMISSION ALTERNATIVES, PHASE II, TASK--ETC(U)

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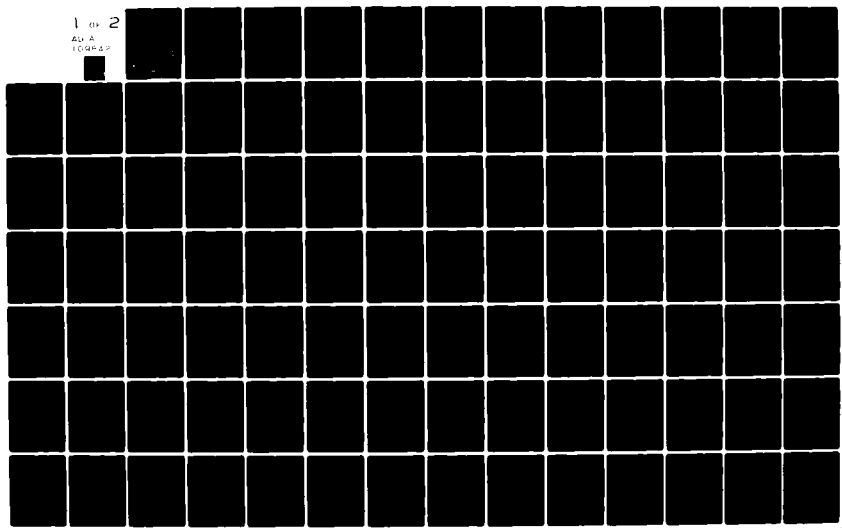
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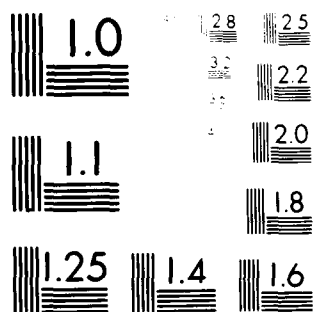
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MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

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**EVALUATION OF DCS III
TRANSMISSION ALTERNATIVES
PHASE II TASK 1 FINAL REPORT**

**APPENDIX
PATH PROFILES**

31 AUGUST 1981

Prepared for
Defense Communications Agency
Defense Communications Engineering Center
Reston, Virginia 22090

Contract No. DCA 100-79-C-0044

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**EVALUATION OF DCS III
TRANSMISSION ALTERNATIVES
PHASE II TASK 1 FINAL REPORT**

**APPENDIX
PATH PROFILES**

31 AUGUST 1981

Prepared by

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DCS III Project

Approved by

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Prepared for

Defense Communications Agency
Defense Communications Engineering Center
Reston, Virginia 22090

Contract No. DCA 100-79-C-0044

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DEFENSE AND SPACE SYSTEMS GROUP

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FOREWORD AND ACKNOWLEDGEMENT

This Phase II Task 1 Final Report is the first of the reports of the Phase II effort of Evaluation of DCS III Transmission Alternatives Study. Reports of the Phase I effort consist of four volumes. These volumes are:

1. Phase IA Final Report, Evaluation of DCS III Transmission Alternatives, AD 101359
2. Appendix A, Transmission Media, AD 101360
3. Appendix B, Regulatory Barriers, AD 101361
4. Appendix C, Regional Consideration and Characterization, AD 101362.

Project work, as documented in the above noted reports and appendices, has been performed by the Defense and Space Systems Group, TRW Inc., and by TRW's subcontractor, Page Communications Engineers, Inc., Northrop Corporation, for the Defense Communications Engineering Center, Defense Communications Agency, under Contract No. DCA 100-79-C-0044.

This project has been managed by Dr. T. M. Chu and is supported by Messrs. S. H. Lin, and D. Segel, Dr. C. Y. Yoon, and by other TRW personnel on an as-required basis. Subcontracted work has been managed by Mr. R. A. Pickens and is supported by Messrs. T. Loeffler, P. Hill, and other personnel.

Gratefully acknowledged are the many helpful discussions, suggestions, and guidance offered by Mr. J. R. Mensch of the Defense Communications Engineering Center, throughout the course of this study.

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A.0 PATH PROFILES

This appendix presents all the line-of-sight path profiles for transmission alternatives proposed for Oahu Island, Hawaii and Central Germany.

The path profiles are listed alphabetically according to locations of transmitting and receiving sites. Related information, such as latitude, longitude, elevation and antenna tower height of each terminal are provided for each profile. If the same link path is used for both microwave LOS and millimeter wave LOS system, then one path profile is provided appearing in the microwave path profiles section.

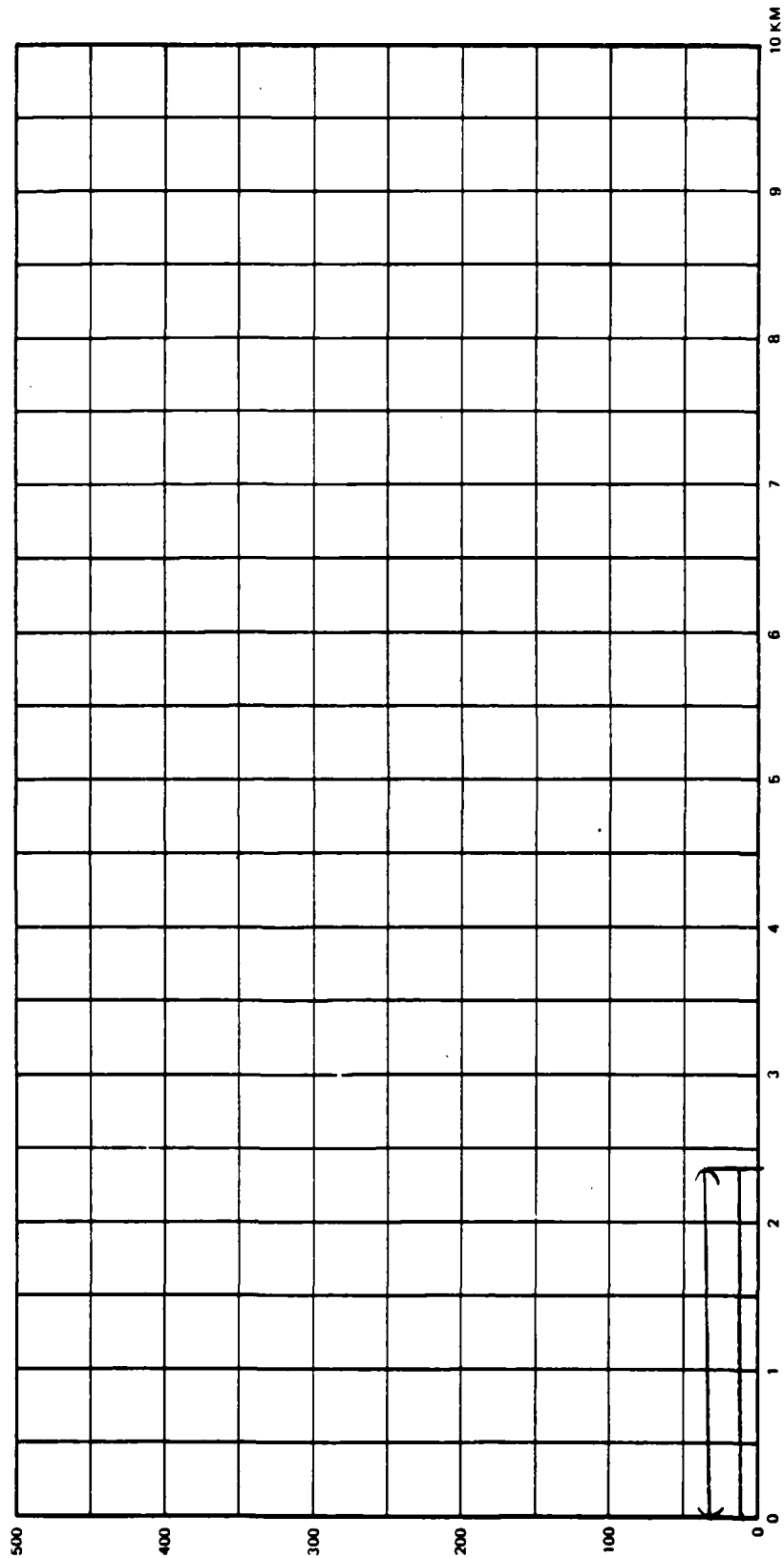
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A.1 MICROWAVE PATH PROFILES OF OAHU ISLAND, HAWAII

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1st repeater to
 STATION Ford Island
 LATITUDE D 21 M 20 S 00
 LONGITUDE D 158 M 02 S 15
 ELEVATION 12 M
 TOWER HEIGHT 15 M

STATION Barbers Point
 LATITUDE D 21 M 19 S 15
 LONGITUDE D 158 M 04 S 45
 ELEVATION 9 M
 TOWER HEIGHT 15 M



1st repeater to

STATION Barbers Point

LATITUDE D 21 M 20 S 00

LONGITUDE D 158 M 02 S 15

ELEVATION 12 M

TOWER HEIGHT 15 M

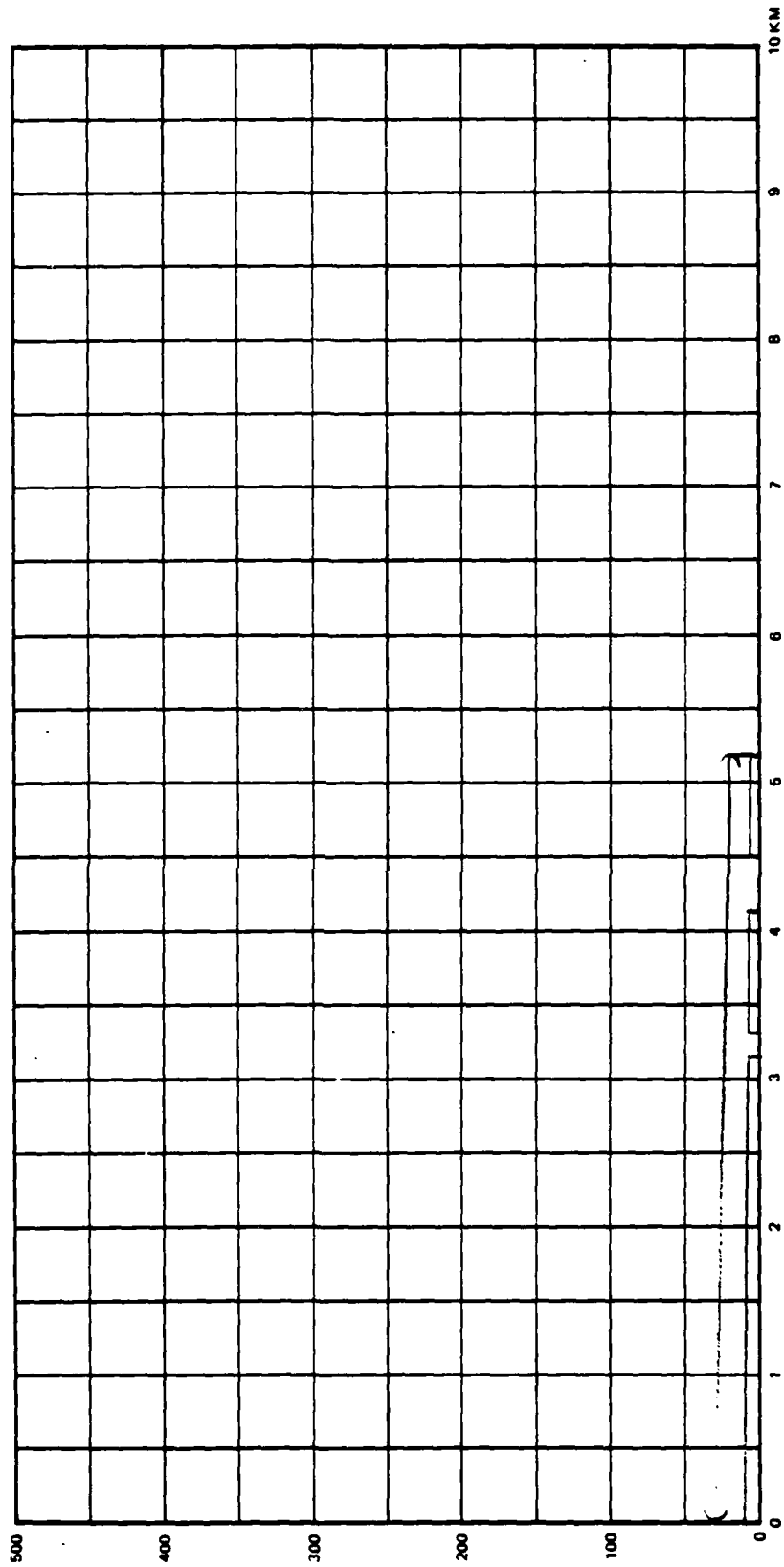
STATION Ford Island

LATITUDE D 21 M 22 S 00

LONGITUDE D 157 M 58 S 00

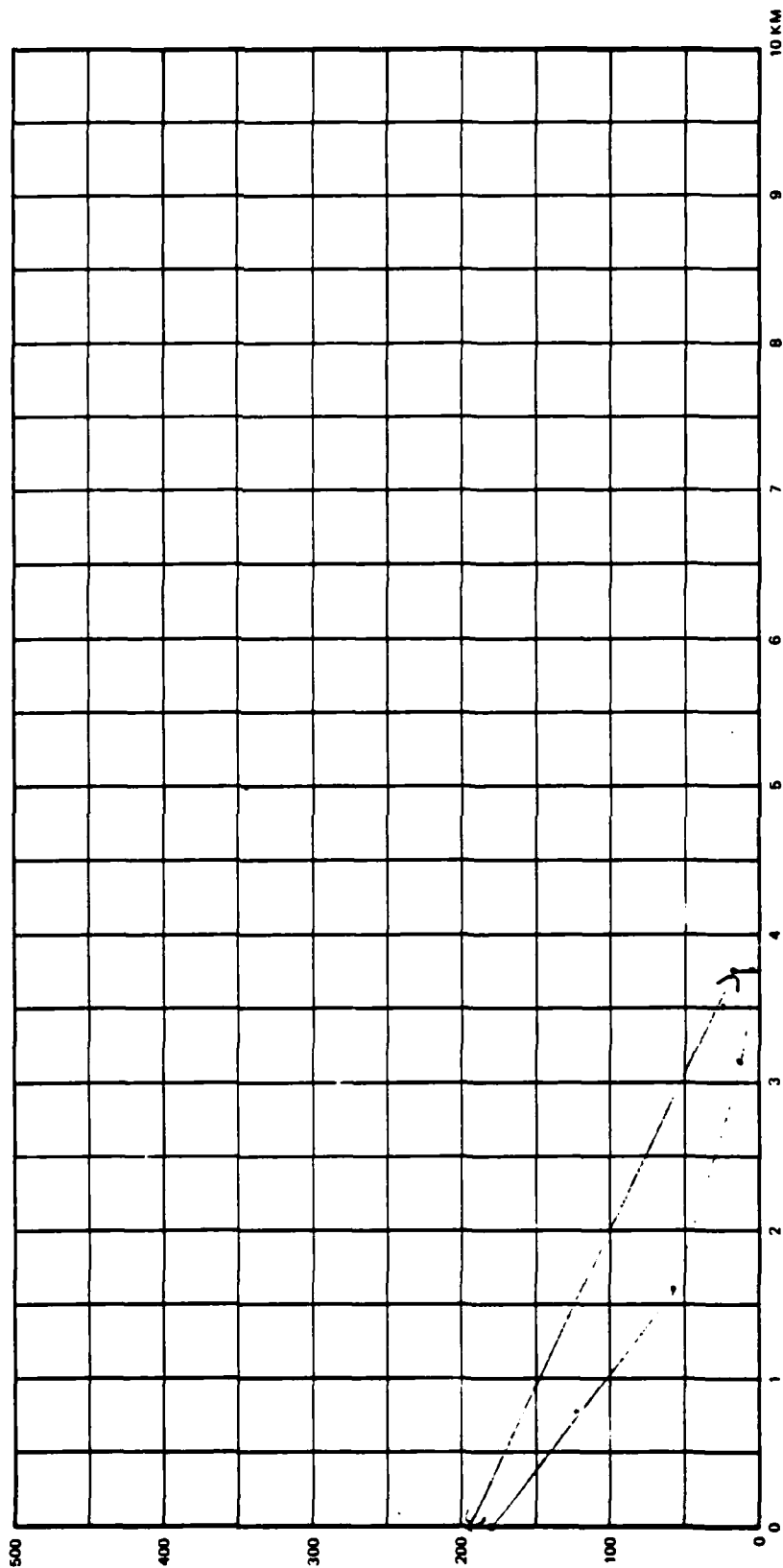
ELEVATION 3 M

TOWER HEIGHT 15 M



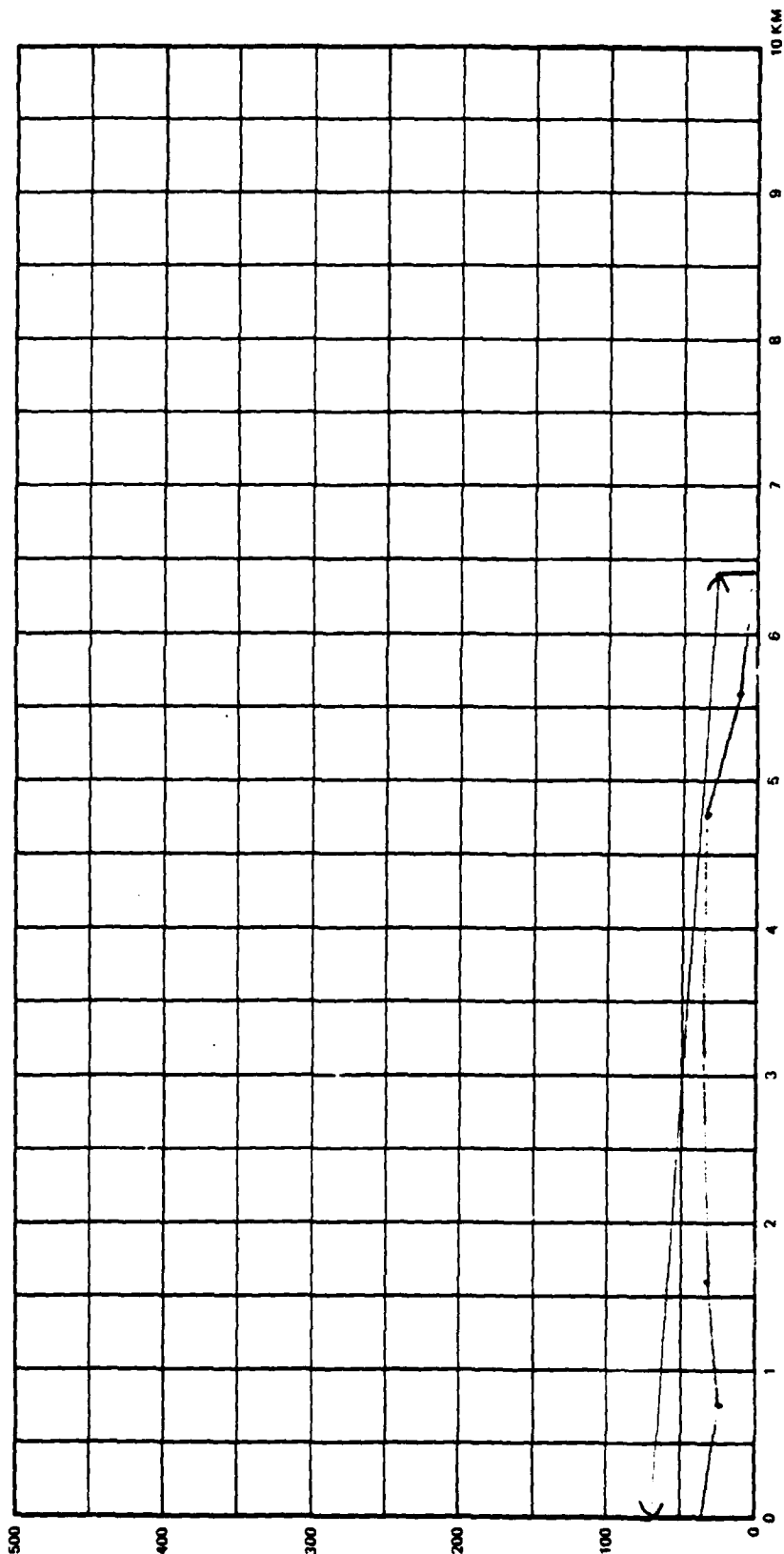
STATION Makalapa
 LATITUDE D 21 M 22 S 00
 LONGITUDE D 157 M 56 S 25
 ELEVATION 3 M
 TOWER HEIGHT 15 M

STATION Camp Smith
 LATITUDE D 21 M 23 S 15
 LONGITUDE D 157 M 54 S 45
 ELEVATION 183 M
 TOWER HEIGHT 15 M



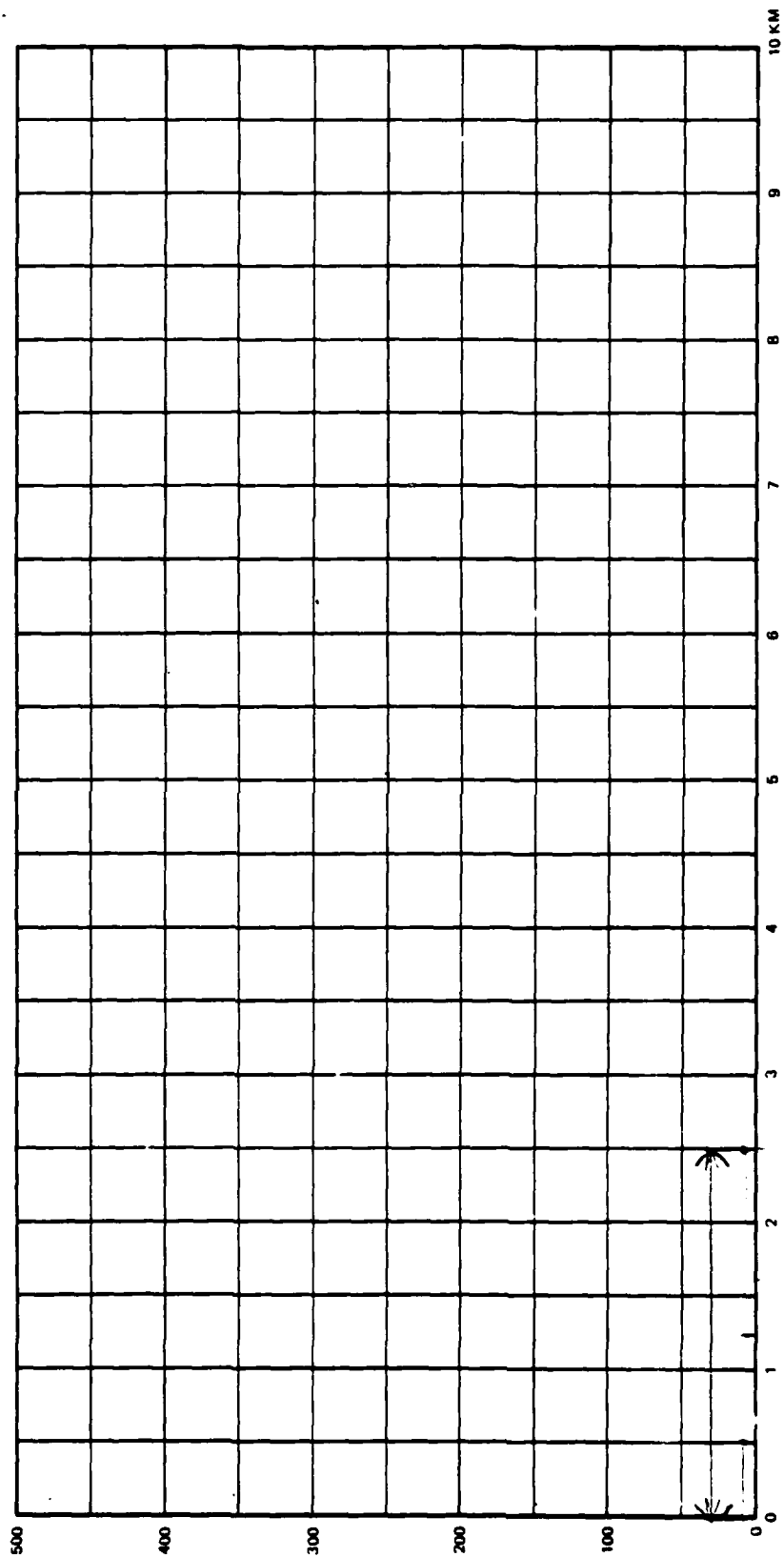
STATION Fort Shafter
 LATITUDE D 21 M 21 S 00
 LONGITUDE D 157 M 53 S 00
 ELEVATION 36 M
 TOWER HEIGHT 30 M

STATION Makalapa
 LATITUDE D 21 M 22 S 00
 LONGITUDE D 157 M 56 S 25
 ELEVATION 3 M
 TOWER HEIGHT 30 M



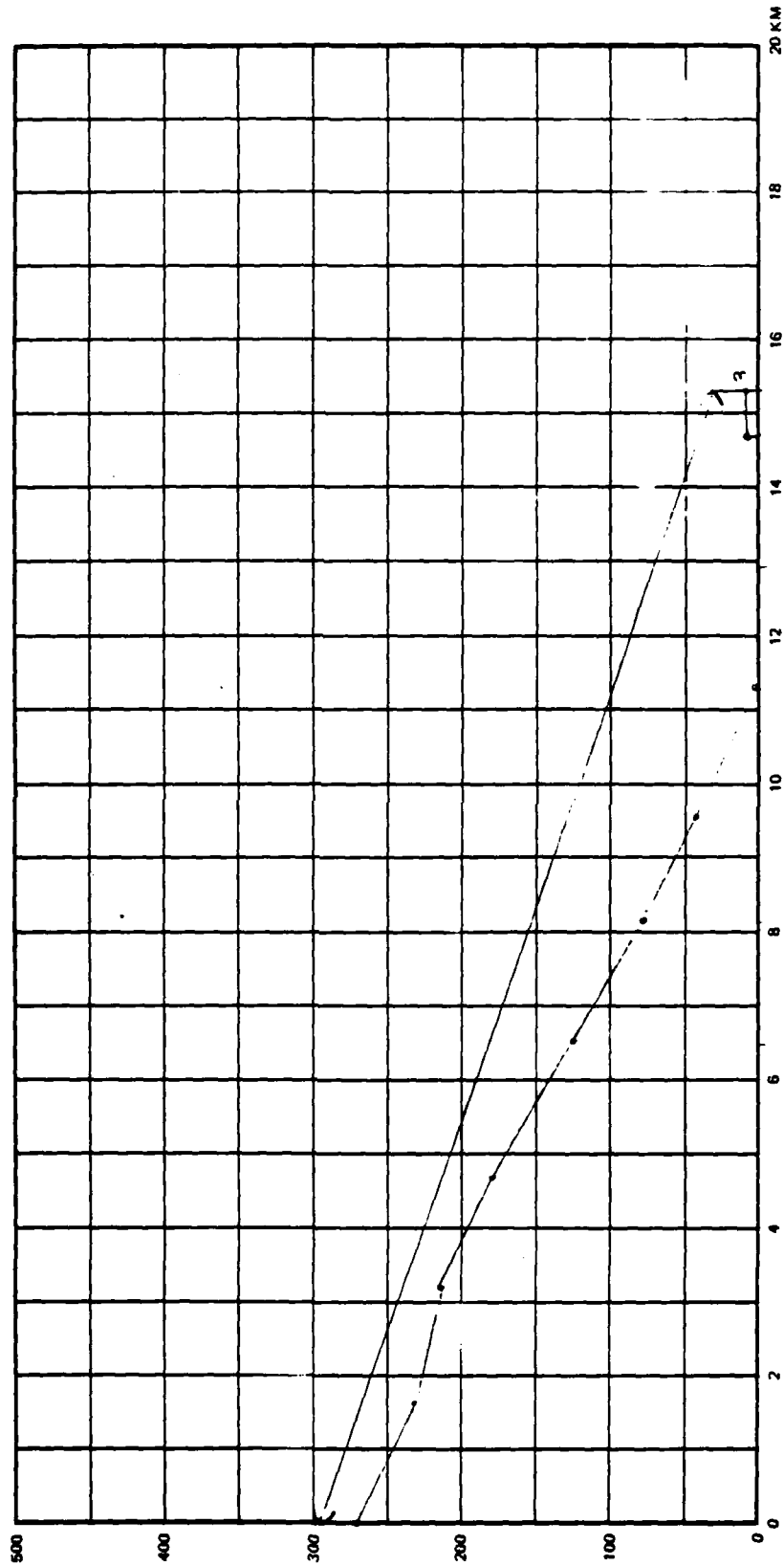
STATION Ford Island
 LATITUDE D 21 M 22 S 00
 LONGITUDE D 157 M 58 S 00
 ELEVATION 3 M
 TOWER HEIGHT 15 M

STATION Pearl Harbor
 LATITUDE D 21 M 21 S 25
 LONGITUDE D 157 M 57 S 30
 ELEVATION 3 M
 TOWER HEIGHT 15 M



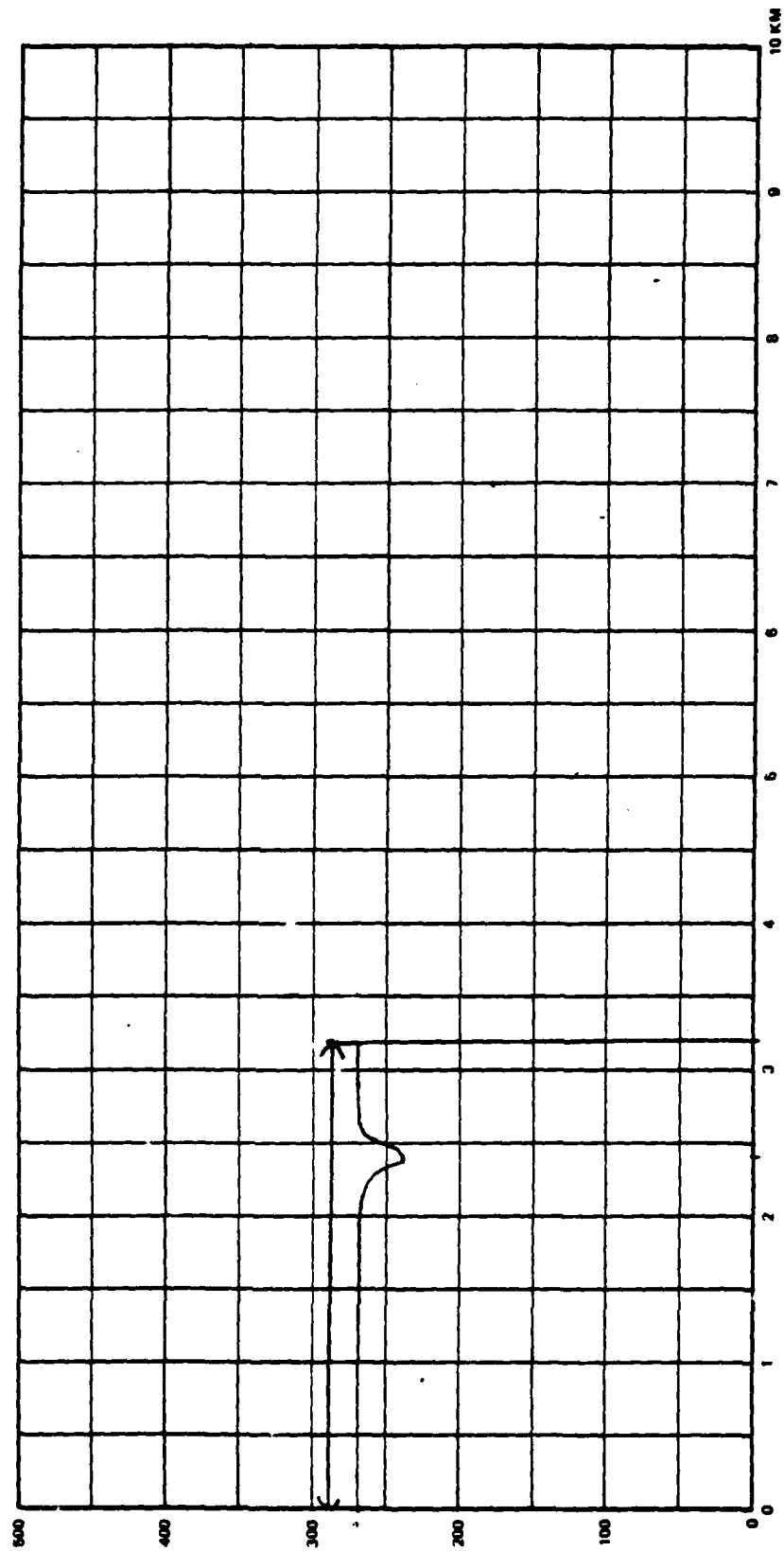
STATION Ford Island
 LATITUDE D 21 M 22 S 00
 LONGITUDE D 157 M 58 S 00
 ELEVATION 3 M
 TOWER HEIGHT 30 M

STATION Kunia
 LATITUDE D 21 M 27 S 45
 LONGITUDE D 158 M 04 S 00
 ELEVATION 268 M
 TOWER HEIGHT 30 M



STATION Kunia
LATITUDE D 21 M 27 S 45
LONGITUDE D 158 M 04 S 00
ELEVATION 268 M
TOWER HEIGHT 20 M

STATION Schofield
LATITUDE D 21 M 29 S 45
LONGITUDE D 158 M 03 S 30
ELEVATION 268 M
TOWER HEIGHT 20 M



Puukanehoa (repeater)

STATION to Schofield

LATITUDE D 21 M 27 S 27

LONGITUDE D 158 M 05 S 25

ELEVATION 831.5 M

TOWER HEIGHT 30 M

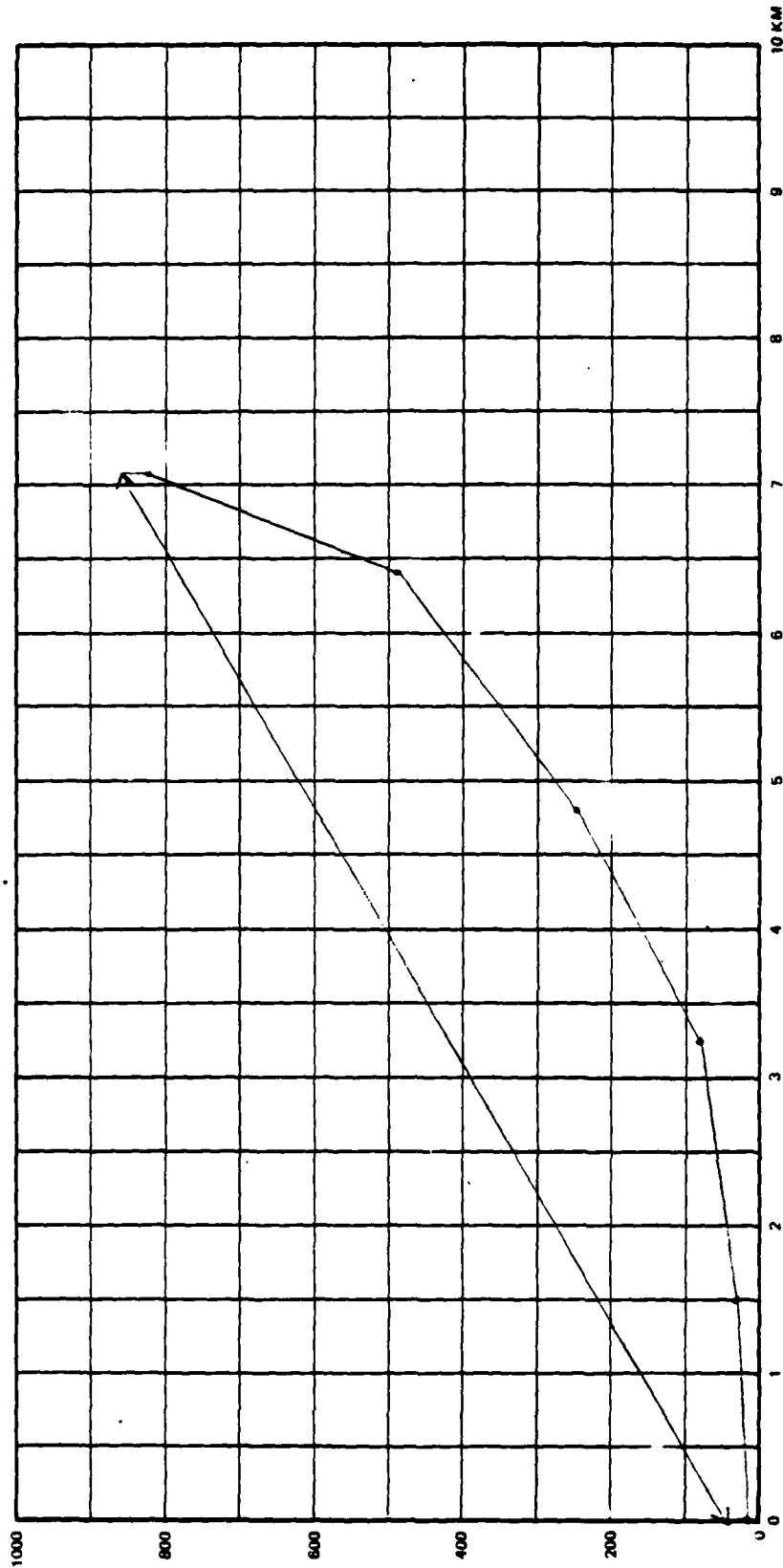
STATION Lualualei

LATITUDE D 21 M 25 S 45

LONGITUDE D 158 M 09 S 45

ELEVATION 12.2 M

TOWER HEIGHT 30 M



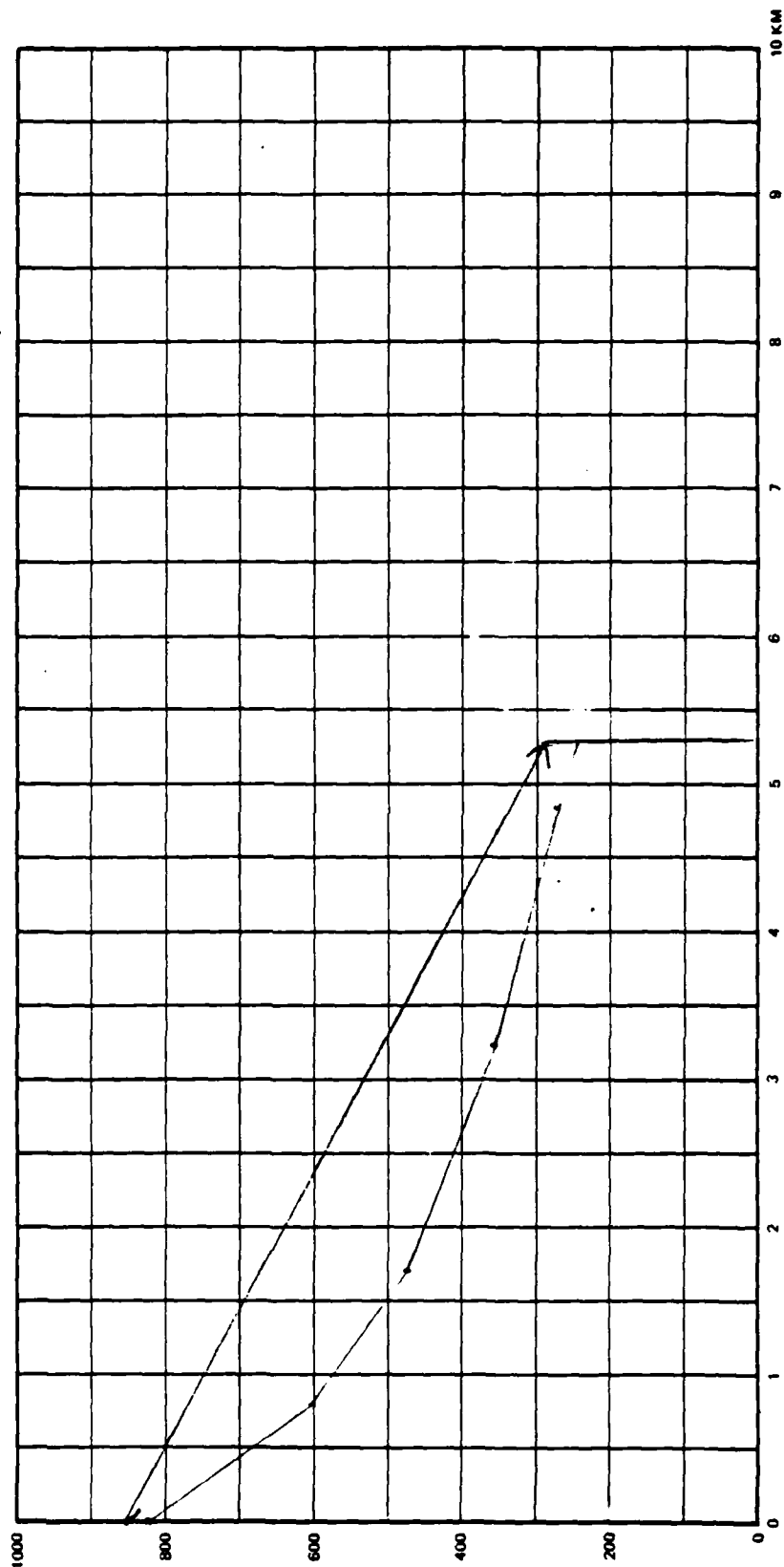
Puukanehoa (repeater)

STATION from Lualualei

LATITUDE D 21 M 27 S 27
 LONGITUDE D 158 M 05 S 25
 ELEVATION 831.5 M
 TOWER HEIGHT 30 M

STATION Schofield

LATITUDE D 21 M 29 S 45
 LONGITUDE D 158 M 03 S 30
 ELEVATION 268.2 M
 TOWER HEIGHT 30 M



STATION Makalapa

LATITUDE D 21 M 22 S 00

LONGITUDE D 157 M 56 S 25

ELEVATION 3 M

TOWER HEIGHT 15 M

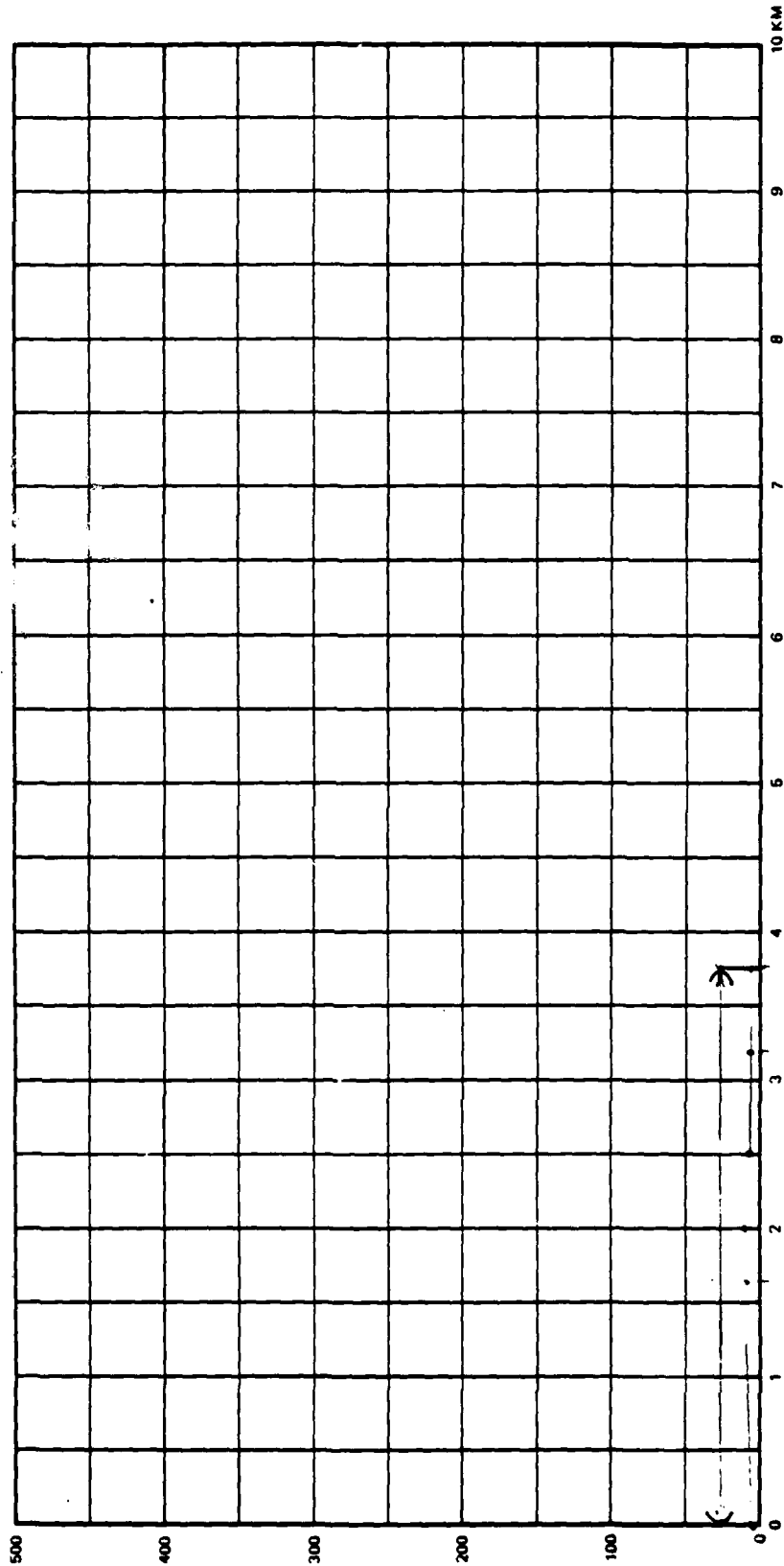
STATION Hickam

LATITUDE D 21 M 20 S 30

LONGITUDE D 157 M 57 S 45

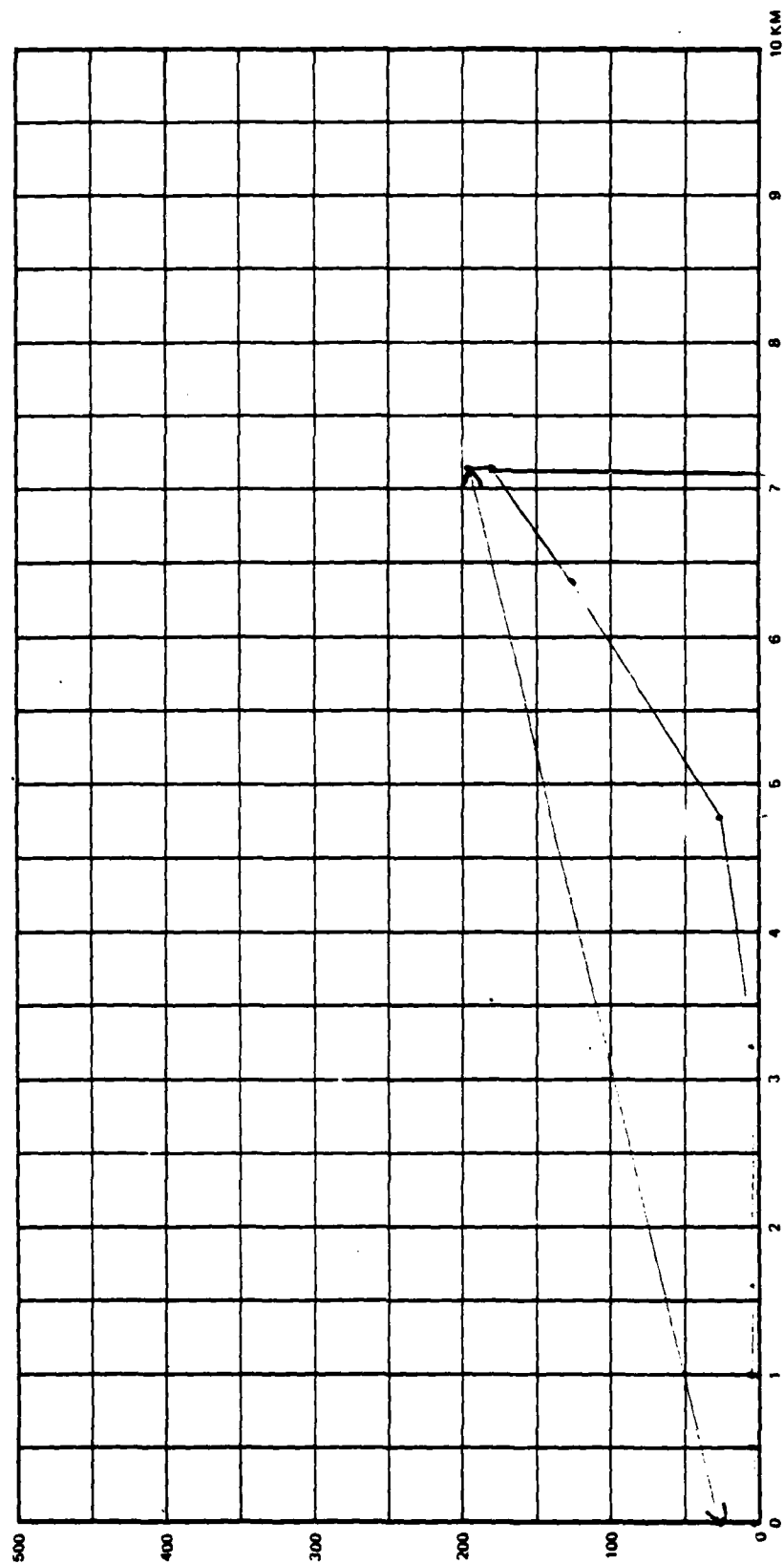
ELEVATION 3 M

TOWER HEIGHT 15 M



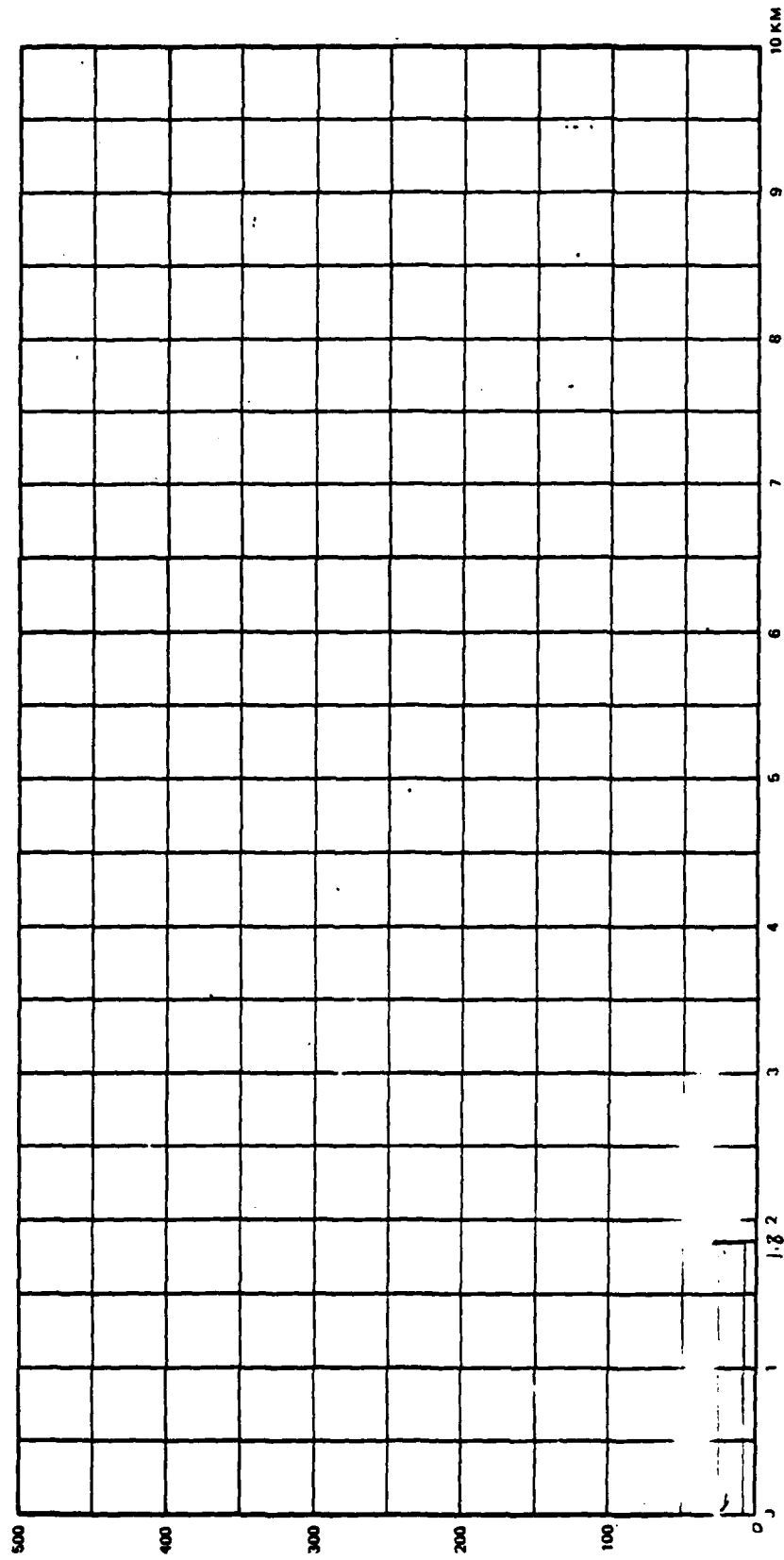
STATION Camp Smith
 LATITUDE D 21 M 23 S 15
 LONGITUDE D 157 M 54 S 30
 ELEVATION 183 M
 TOWER HEIGHT 15 M

STATION Pearl Harbor
 LATITUDE D 21 M 21 S 25
 LONGITUDE D 157 M 57 S 30
 ELEVATION 6 M
 TOWER HEIGHT 15 M



STATION Pearl Harbor
 LATITUDE D 21 M 21 S 25
 LONGITUDE D 157 M 57 S 30
 ELEVATION 3 M
 TOWER HEIGHT 15 M

STATION Hickam
 LATITUDE D 21 M 20 S 30
 LONGITUDE D 157 M 57 S 45
 ELEVATION 3 M
 TOWER HEIGHT 15 M



STATION Pearl Harbor

LATITUDE D 21 M 21 S 25

LONGITUDE D 157 M 57 S 30

ELEVATION 3 M

TOWER HEIGHT 15 M

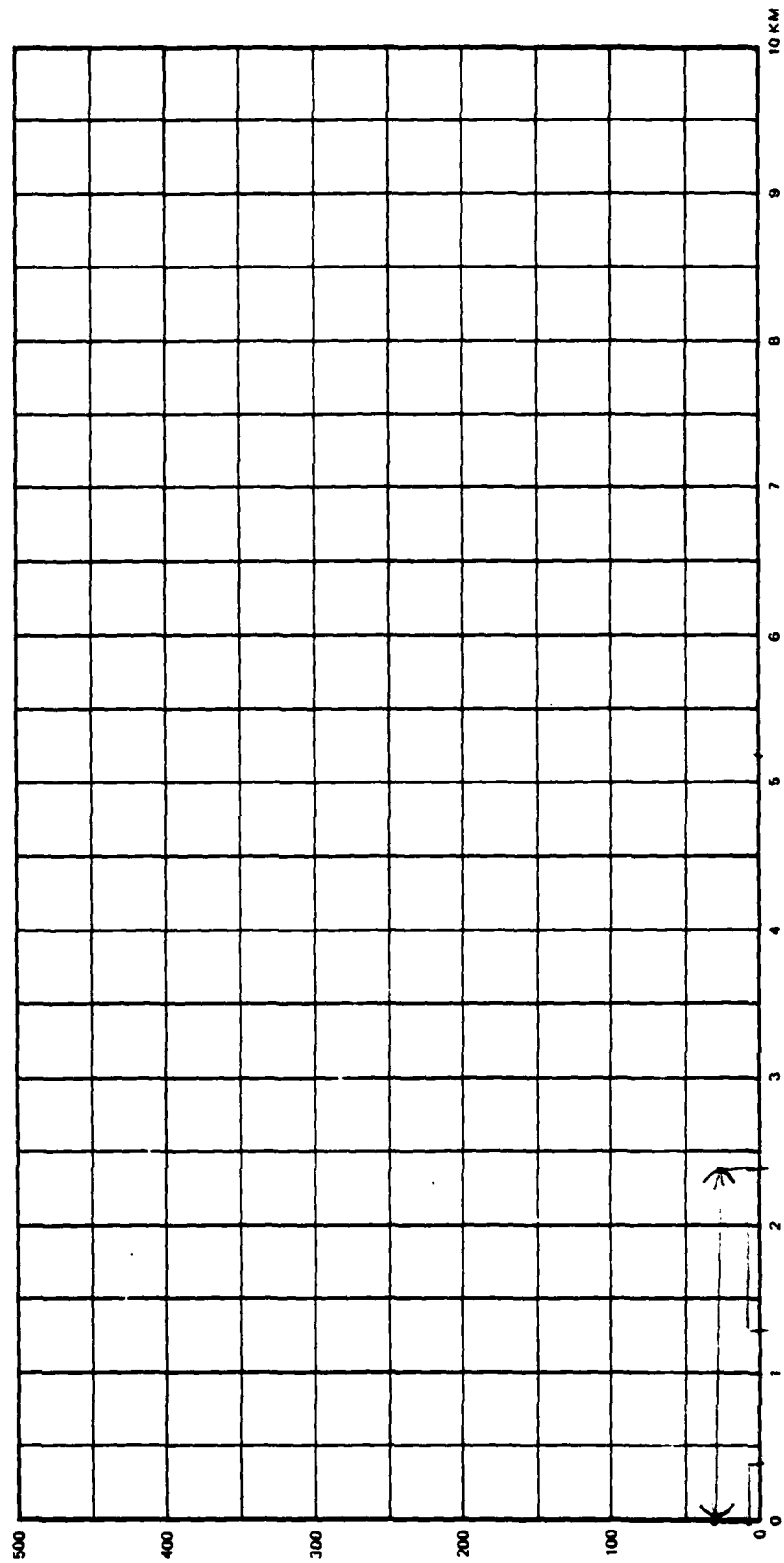
STATION Makalapa

LATITUDE D 21 M 22 S 00

LONGITUDE D 157 M 56 S 25

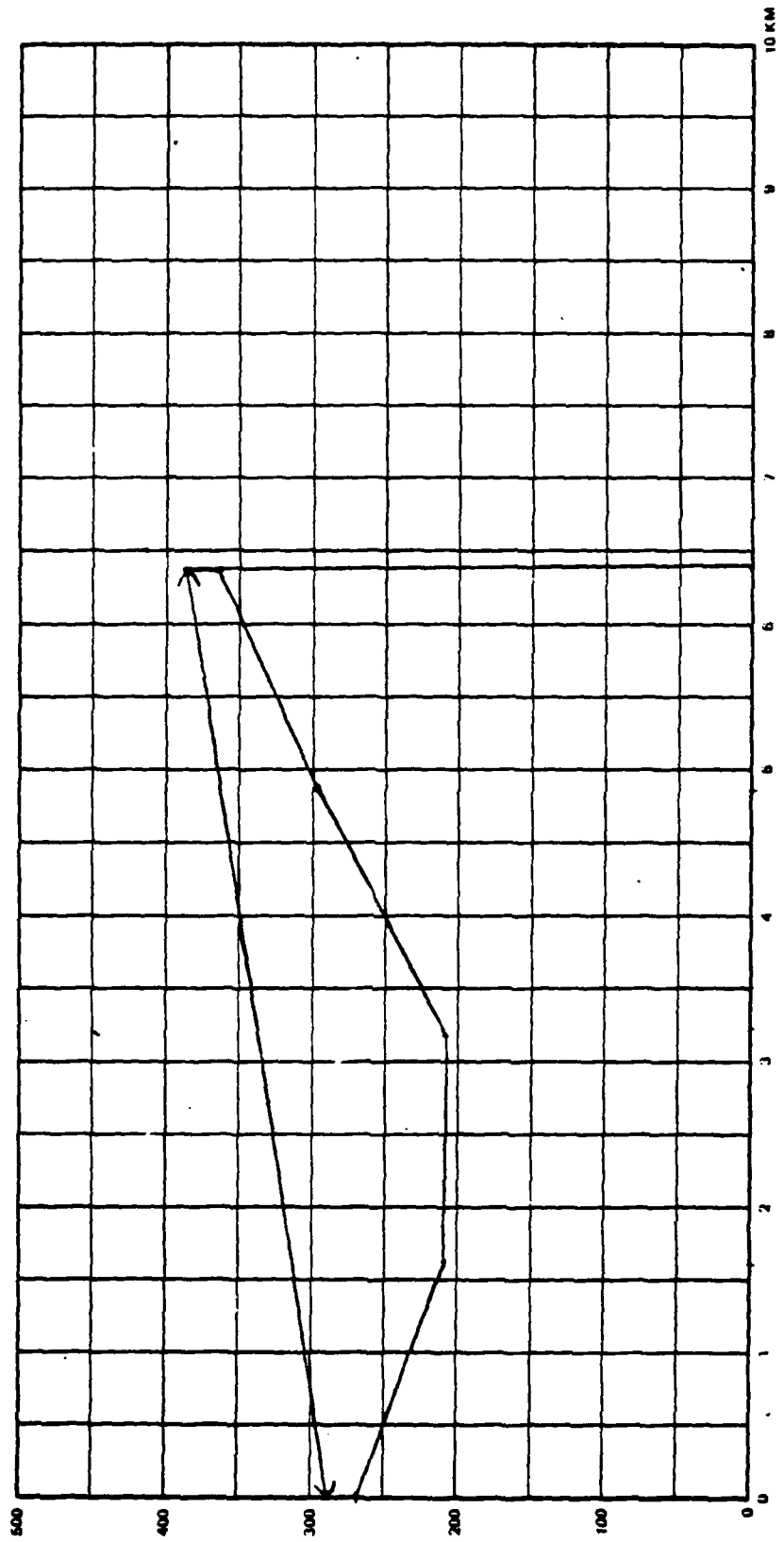
ELEVATION 3 M

TOWER HEIGHT 15 M



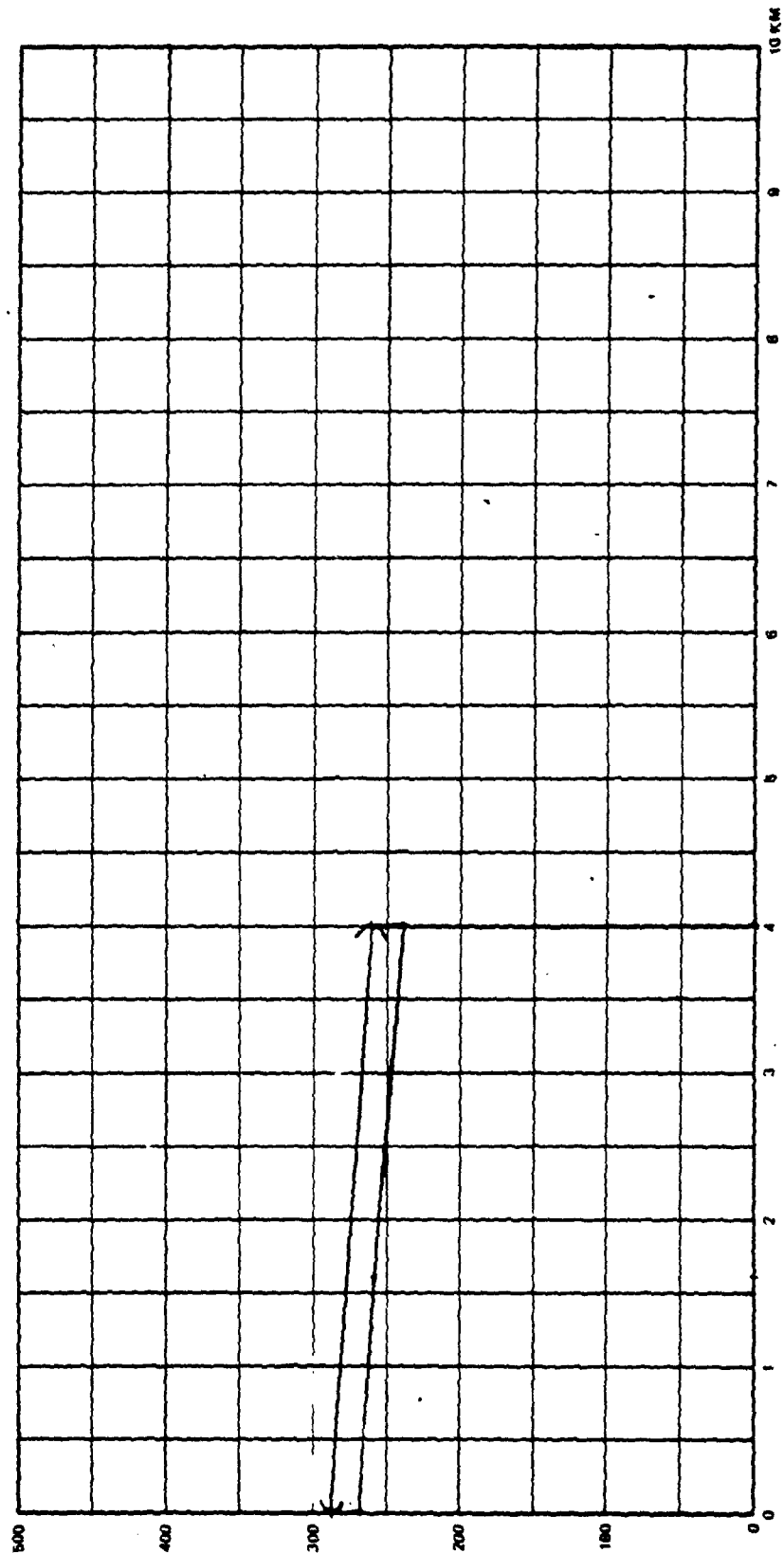
STATION Schofield
 LATITUDE D 21 M 29 S 45
 LONGITUDE D 158 M 03 S 30
 ELEVATION 274 M
 TOWER HEIGHT 20 M

STATION Wahiawa
 LATITUDE D 21 M 31 S 30
 LONGITUDE D 158 M 01 S 00
 ELEVATION 366 M
 TOWER HEIGHT 20 M



STATION Schofield
LATITUDE D 21 M 29 S 45
LONGITUDE D 158 M 03 S 30
ELEVATION 268 M
TOWER HEIGHT 20 M

STATION Wheeler
LATITUDE D 21 M 29 S 15
LONGITUDE D 158 M 02 S 30
ELEVATION 244 M
TOWER HEIGHT 20 M

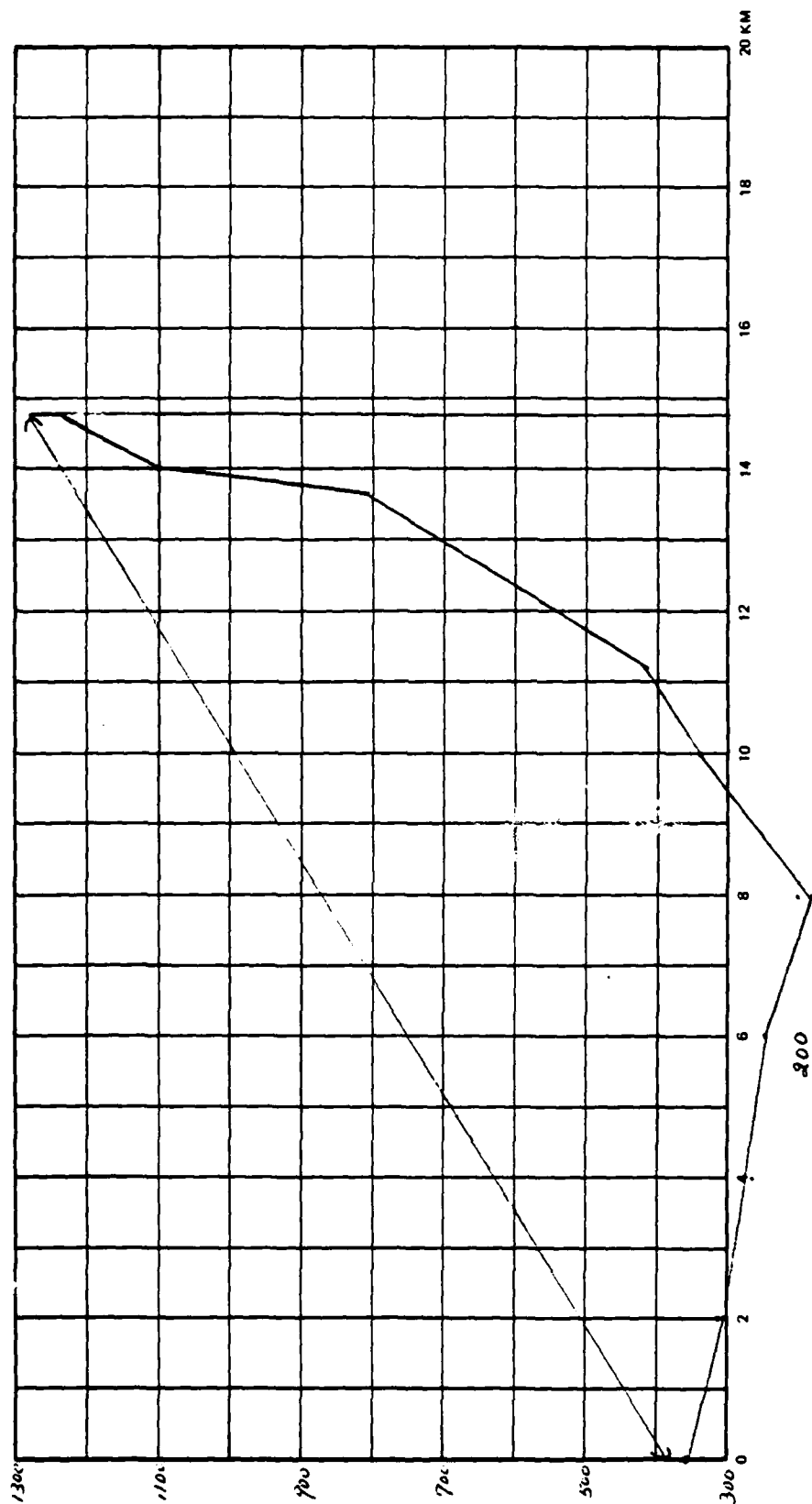


STATION Wahiawa

LATITUDE D 21 M 31 S 00
 LONGITUDE D 158 M 01 S 00
 ELEVATION 365.8 M
 TOWER HEIGHT 30 M

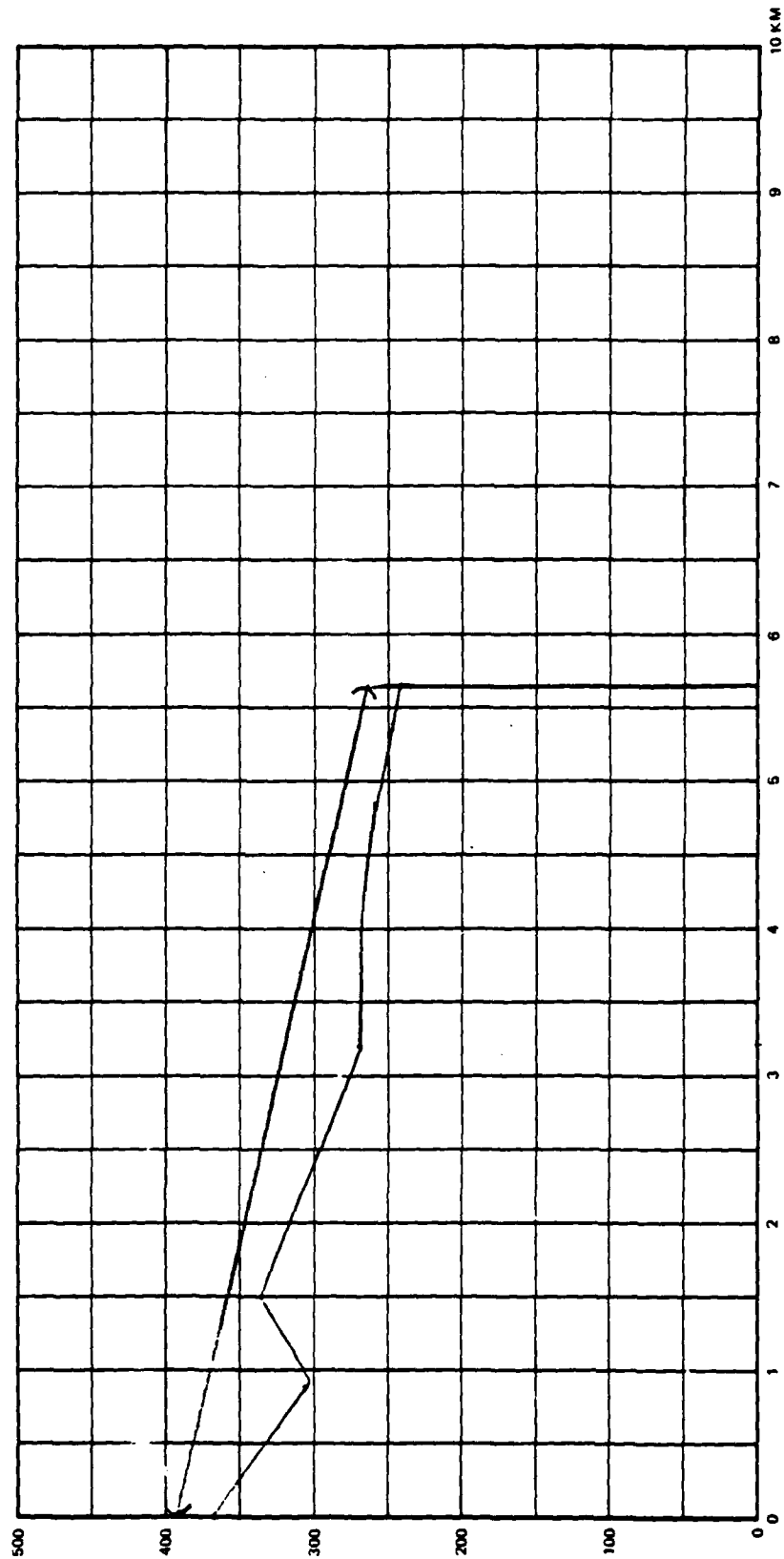
STATION Mt Kaala

LATITUDE D 21 M 30 S 40
 LONGITUDE D 158 M 08 S 40
 ELEVATION 1226.8 M
 TOWER HEIGHT 30 M



STATION Wheeler
 LATITUDE D 21 M 29 S 15
 LONGITUDE D 158 M 02 S 30
 ELEVATION 244 M
 TOWER HEIGHT 30 M

STATION Wahiawa
 LATITUDE D 21 M 31 S 30
 LONGITUDE D 158 M 01 S 00
 ELEVATION 366 M
 TOWER HEIGHT 30 M

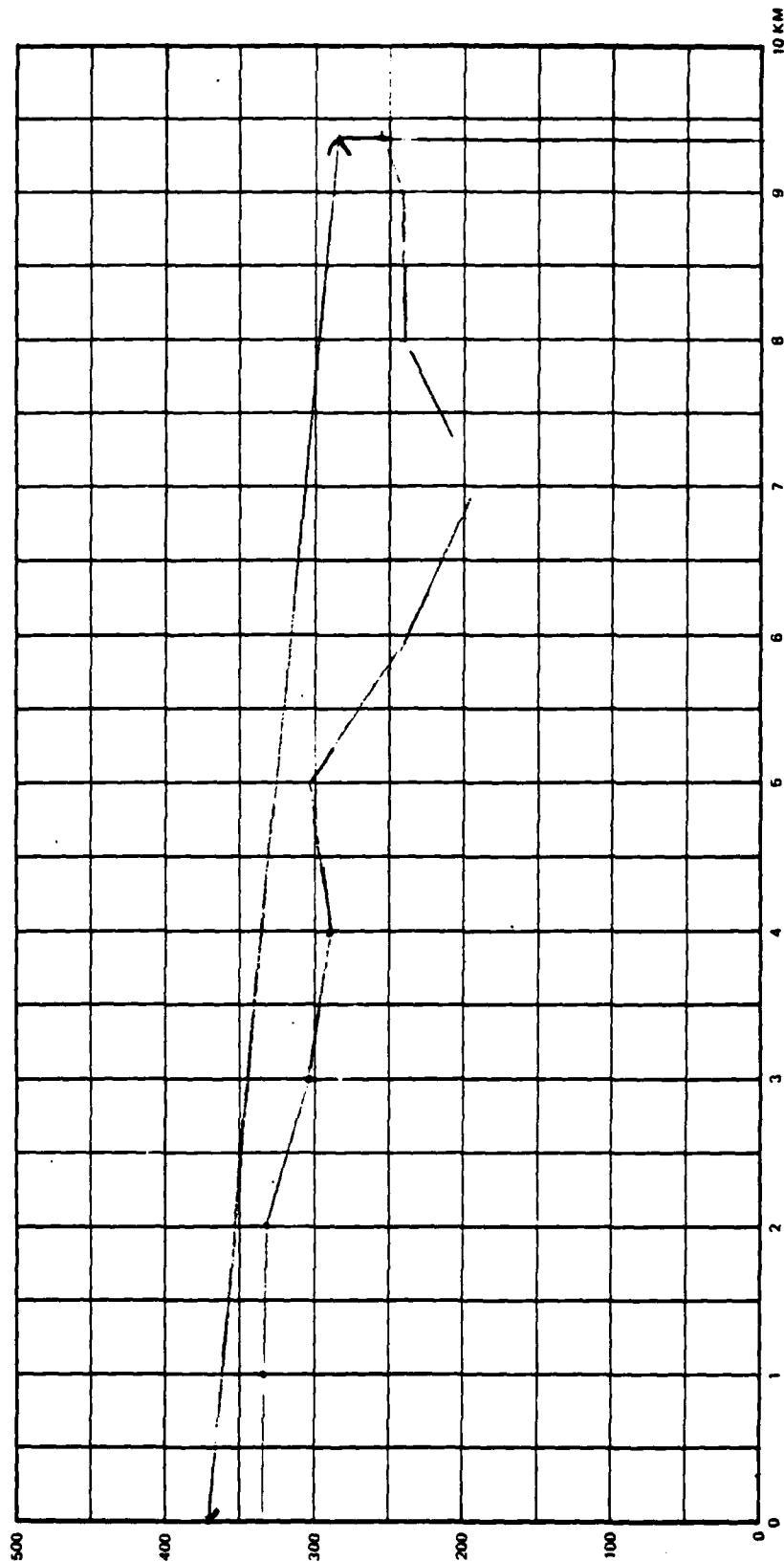


STATION Wahiawa

LATITUDE D 21 M 31 S 30
 LONGITUDE D 158 M 01 S 00
 ELEVATION 341.3 M
 TOWER HEIGHT 30 M

repeater to
 STATION Pearl Harbor

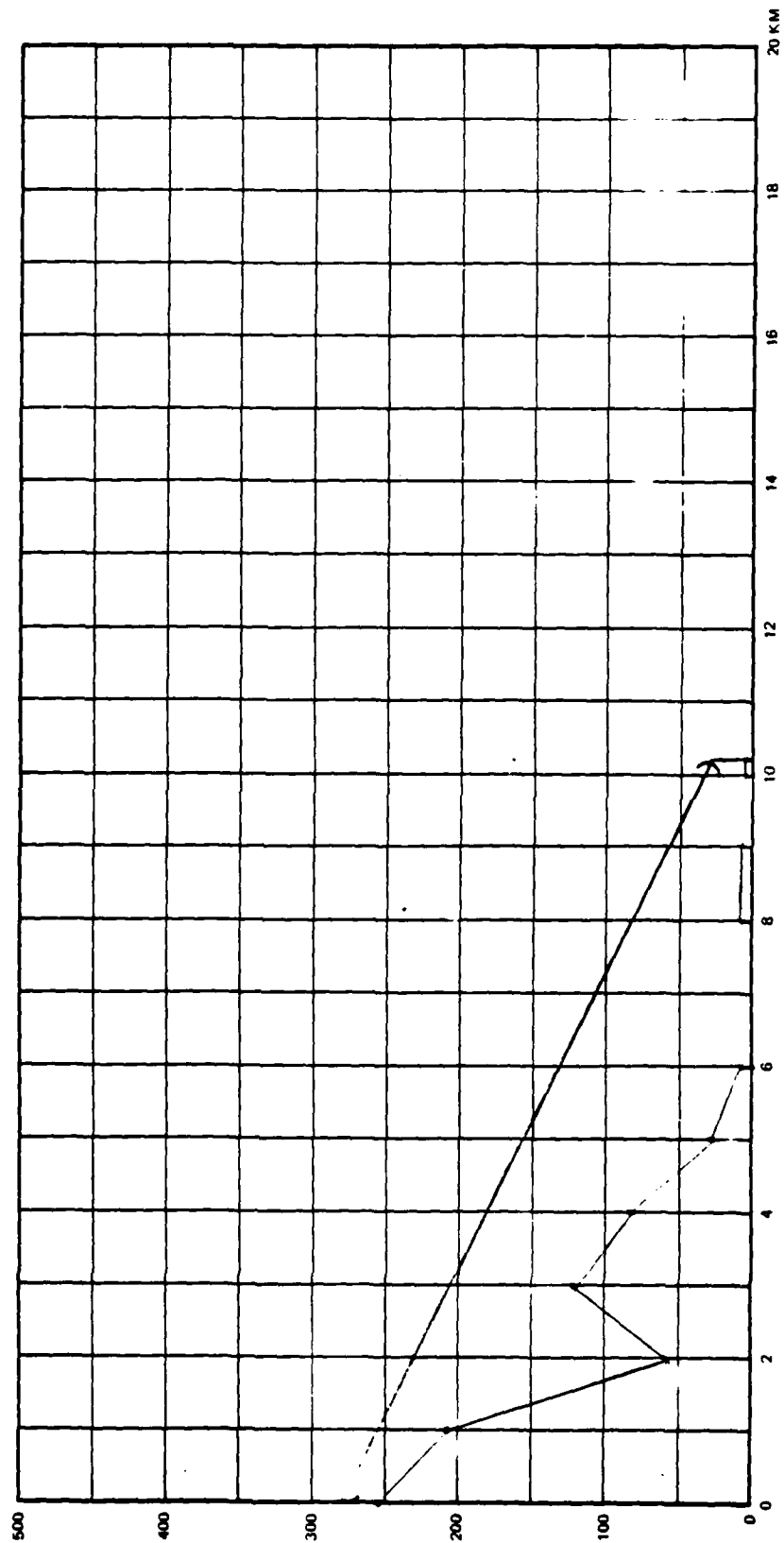
LATITUDE D 21 M 27 S 00
 LONGITUDE D 157 M 58 S 00
 ELEVATION 256 M
 TOWER HEIGHT 30 M



repeater from

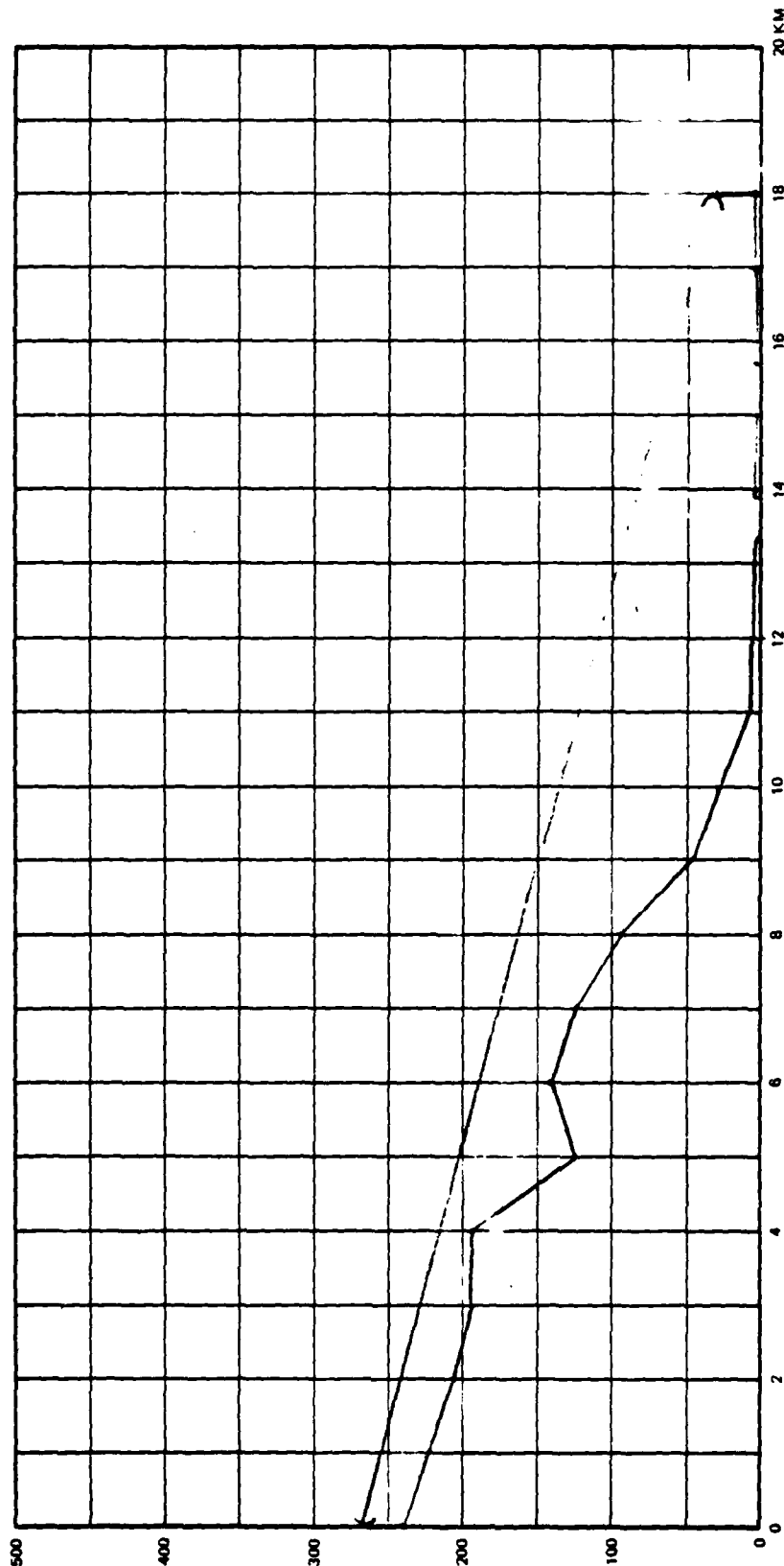
STATION Wahiawa
 LATITUDE D 21 M 27 S 00
 LONGITUDE D 157 M 58 S 00
 ELEVATION 256 M
 TOWER HEIGHT 20 M

STATION Pearl Harbor
 LATITUDE D 21 M 21 S 25
 LONGITUDE D 157 M 57 S 30
 ELEVATION 3 M
 TOWER HEIGHT 20 M



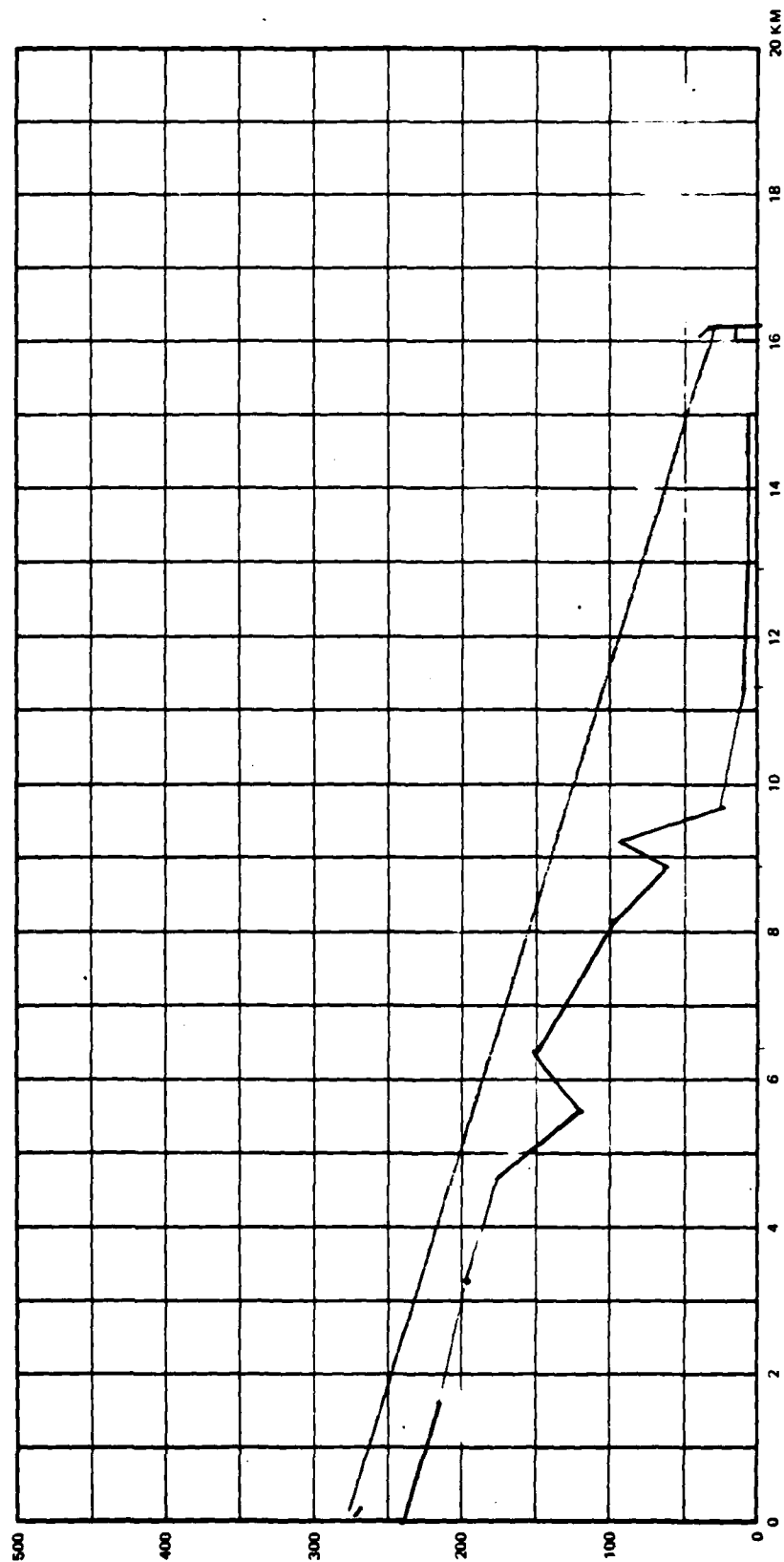
STATION Wheeler
 LATITUDE D 21 M 29 S 15
 LONGITUDE D 158 M 02 S 30
 ELEVATION 243 M
 TOWER HEIGHT 30 M

STATION Hickam
 LATITUDE D 21 M 20 S 30
 LONGITUDE D 157 M 57 S 45
 ELEVATION 3 M
 TOWER HEIGHT 30 M



STATION Pearl Harbor
 LATITUDE D 21 M 21 S 25
 LONGITUDE D 157 M 57 S 30
 ELEVATION 6.1 M
 TOWER HEIGHT 30 M

STATION Wheeler
 LATITUDE D 21 M 29 S 15
 LONGITUDE D 158 M 02 S 30
 ELEVATION 243.8 M
 TOWER HEIGHT 30 M



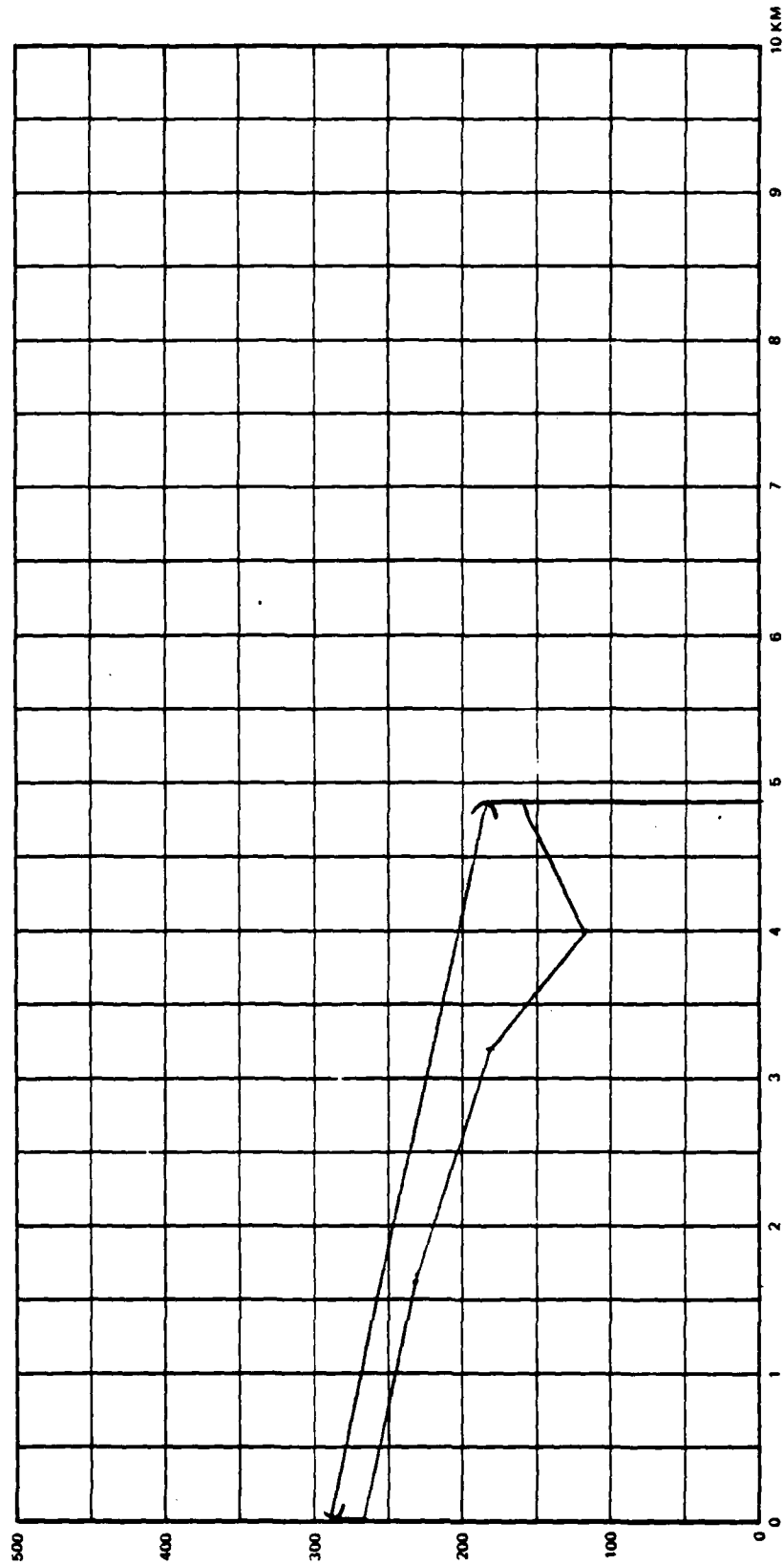
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A.2 MILLIMETER WAVE PATH PROFILES OF OAHU ISLAND, HAWAII

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1st repeater to
 STATION Ford Island
 LATITUDE D 21 M 26 S 35
 LONGITUDE D 158 M 01 S 45
 ELEVATION 160 M
 TOWER HEIGHT 20 M

STATION Kunia
 LATITUDE D 21 M 27 S 45
 LONGITUDE D 158 M 04 S 00
 ELEVATION 268 M
 TOWER HEIGHT 20 M



1st repeater from

STATION Kunia

LATITUDE D 21 M 26 S 35

LONGITUDE D 158 M 01 S 45

ELEVATION 161 M

TOWER HEIGHT 20 M

2nd repeater to

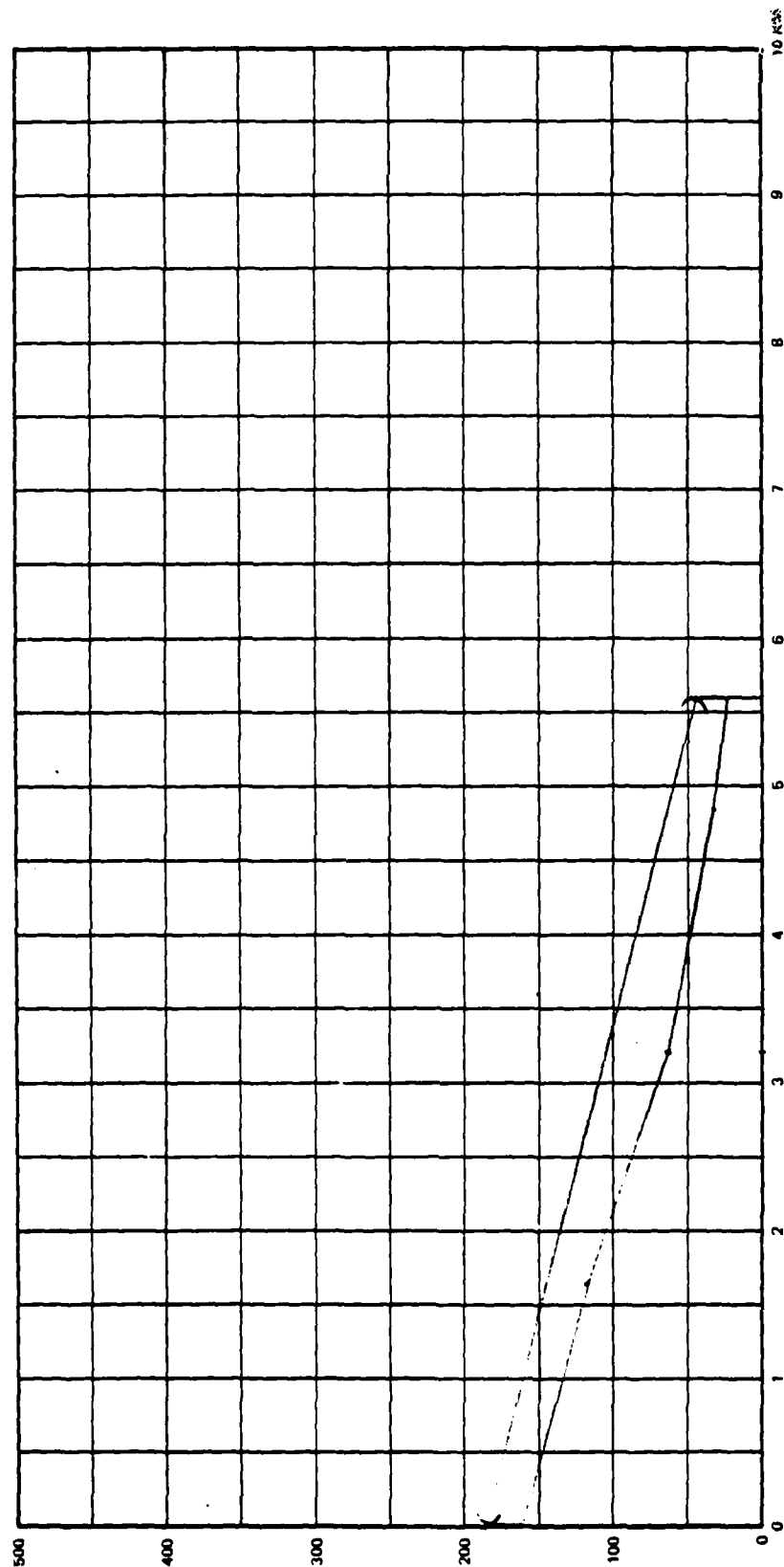
STATION Ford Island

LATITUDE D 21 M 23 S 45

LONGITUDE D 157 M 59 S 25

ELEVATION 24 M

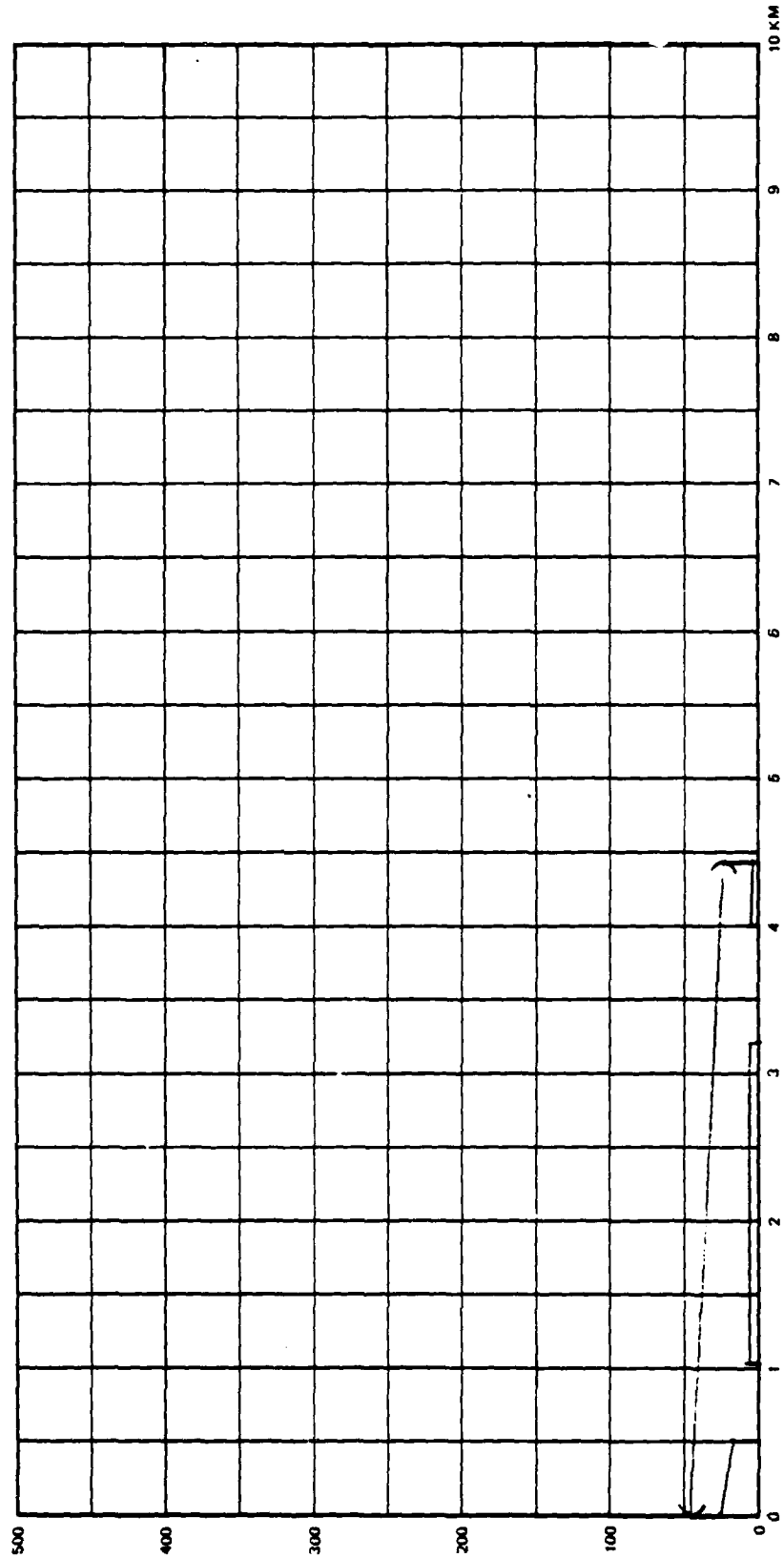
TOWER HEIGHT 20 M



2nd repeater from

STATION Kunia
LATITUDE D 21 M 23 S 45
LONGITUDE D 157 M 59 S 25
ELEVATION 24 M
TOWER HEIGHT 20 M

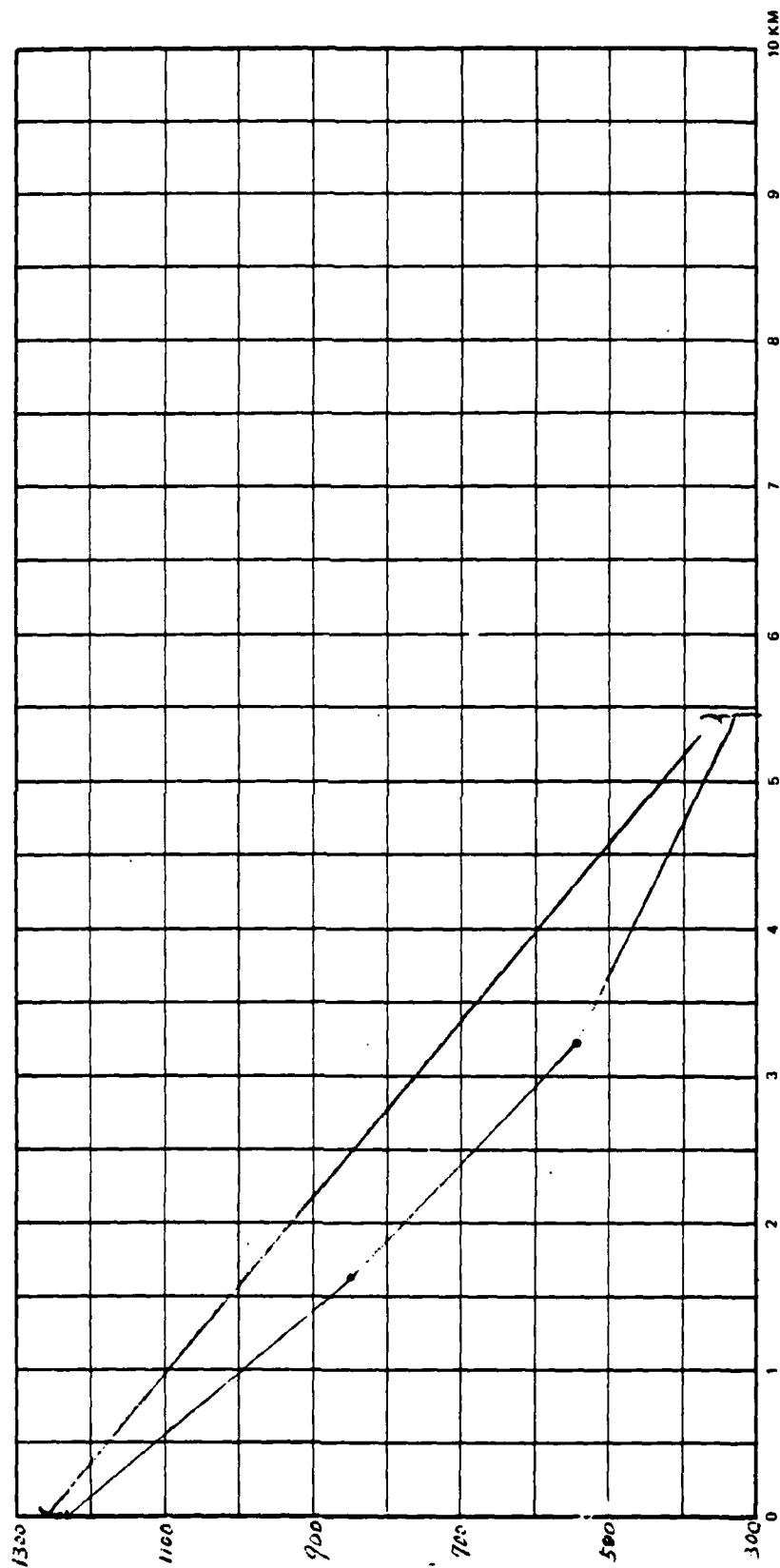
STATION Ford Island
LATITUDE D 21 M 22 S 00
LONGITUDE D 157 M 58 S 00
ELEVATION 3 M
TOWER HEIGHT 20 M



repeater to
Schofield

STATION
LATITUDE D 21 M 29 S 25
LONGITUDE D 158 M 5 S 40
ELEVATION 329 M
TOWER HEIGHT 20 M

STATION Mt Kaala
LATITUDE D 21 M 30 S 40
LONGITUDE D 158 M 08 S 40
ELEVATION 1227 M
TOWER HEIGHT 20 M



repeater from

STATION Mt Kaala

LATITUDE D 21 M 29 S 25

LONGITUDE D 158 M 5 S 40

ELEVATION 329 M

TOWER HEIGHT 20 M

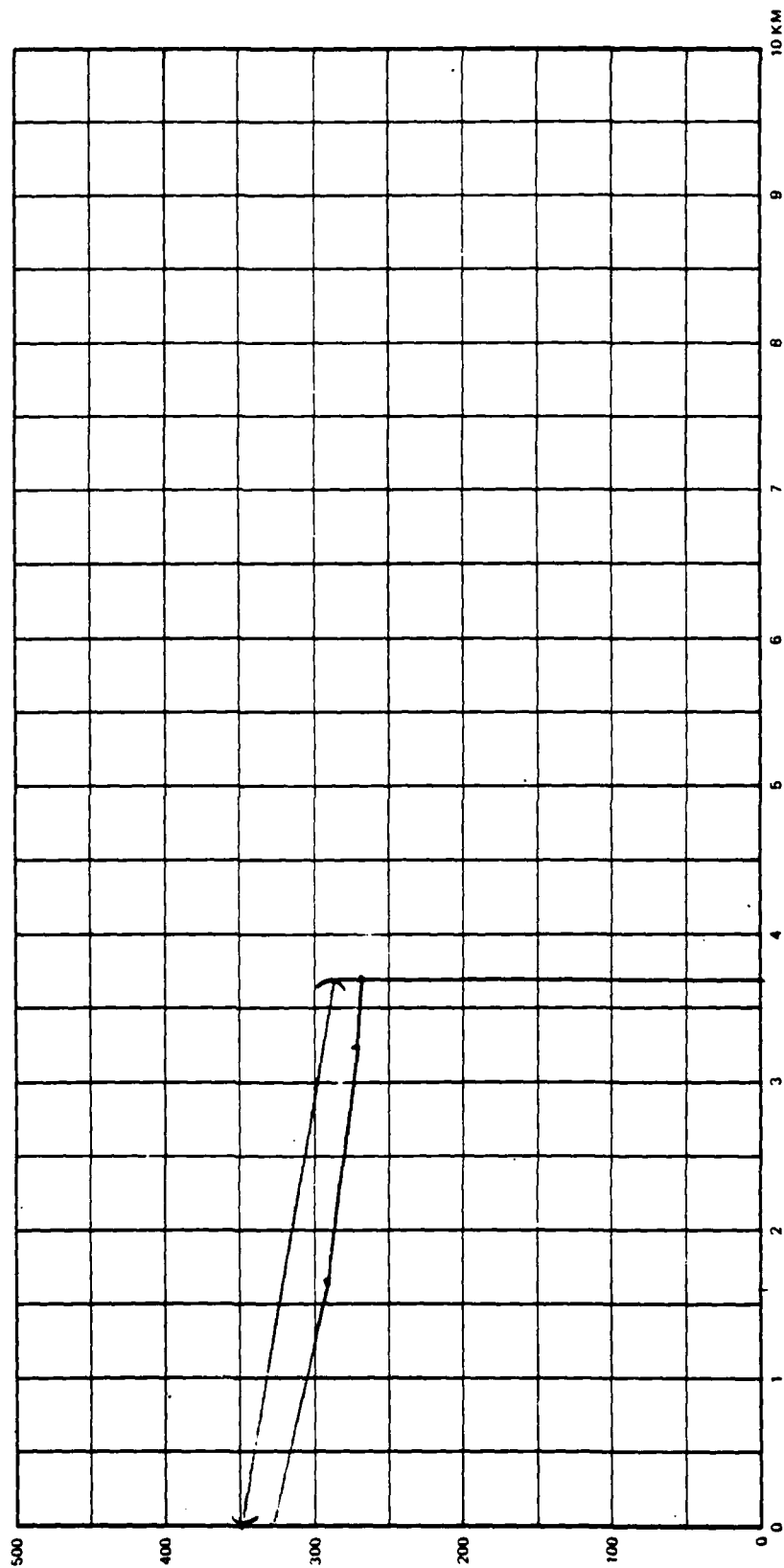
STATION Schofield

LATITUDE D 21 M 29 S 45

LONGITUDE D 158 M 03 S 30

ELEVATION 268 M

TOWER HEIGHT 20 M



1st repeater to

STATION Pearl Harbor

LATITUDE D 21 M 27 S 00

LONGITUDE D 158 M 00 S 50

ELEVATION 218 M

TOWER HEIGHT 30 M

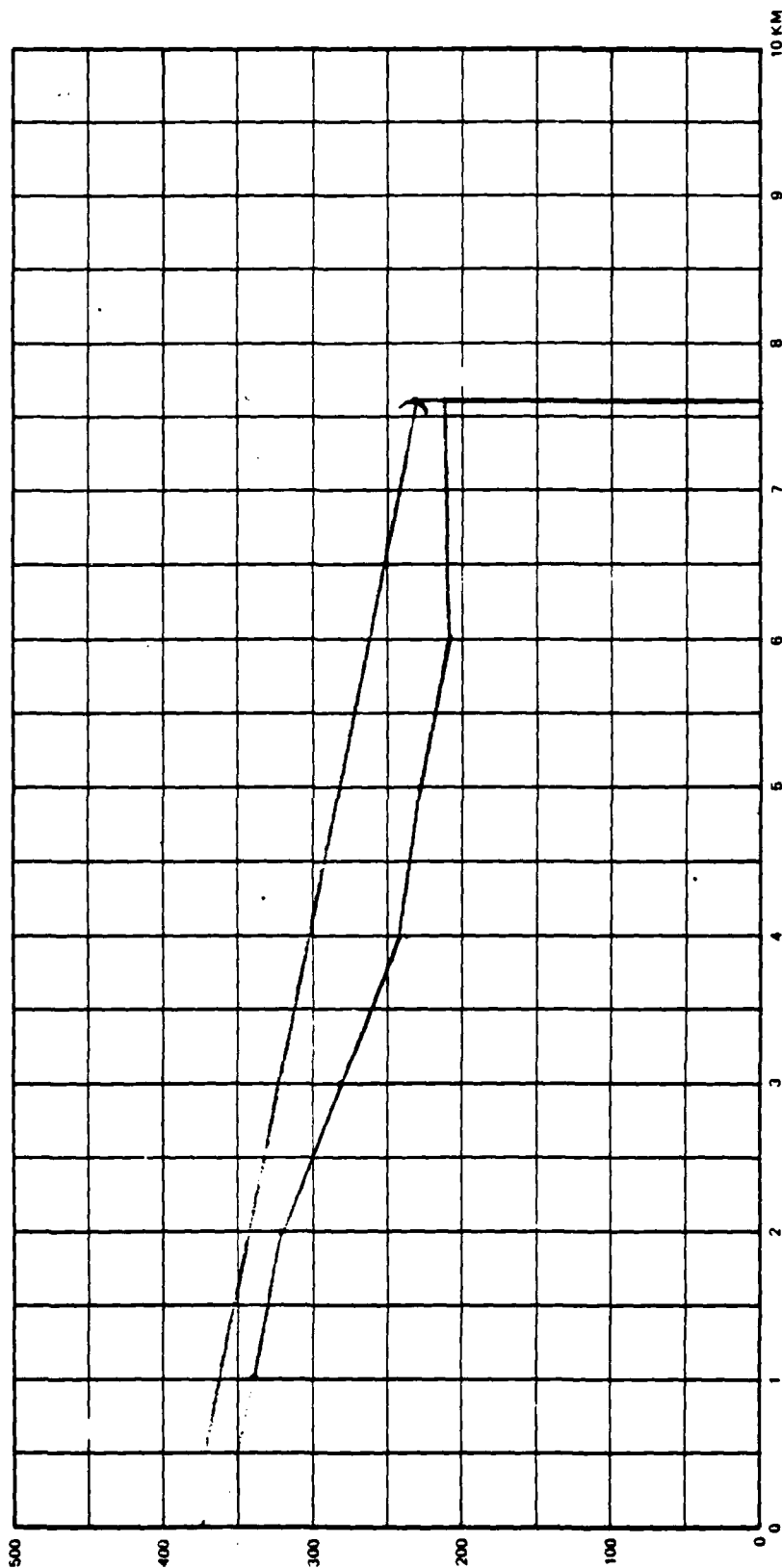
STATION Mahiawa

LATITUDE D 21 M 31 S 30

LONGITUDE D 158 M 01 S 00

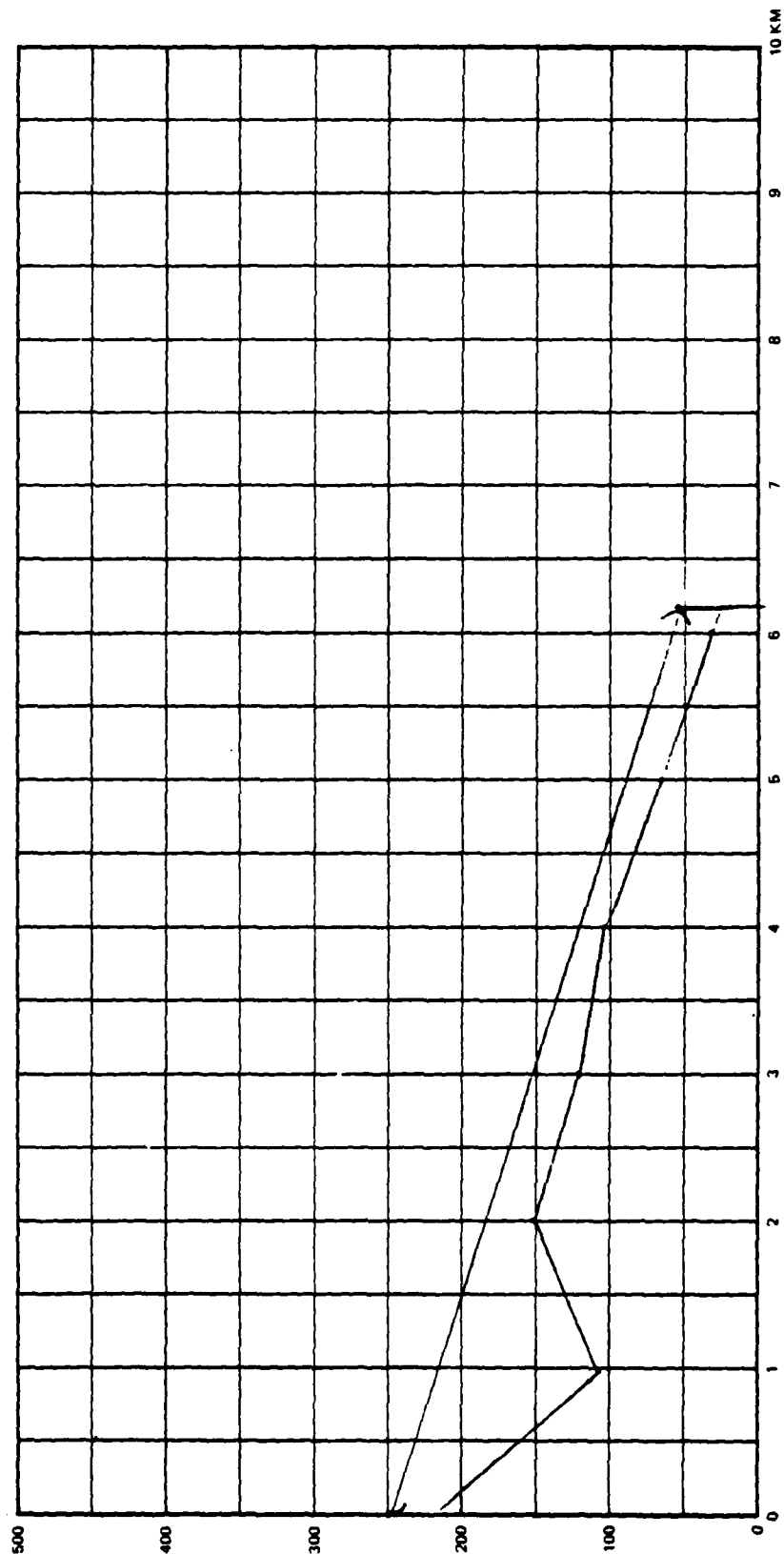
ELEVATION 365 M

TOWER HEIGHT 30 M



1st repeater from
 STATION Wahiawa
 LATITUDE D 21 M 27 S 00
 LONGITUDE D 158 M 00 S 50
 ELEVATION 218 M
 TOWER HEIGHT 30 M

2nd repeater to
 STATION Pearl Harbor
 LATITUDE D 21 M 24 S 15
 LONGITUDE D 157 M 58 S 50
 ELEVATION 24 M
 TOWER HEIGHT 30 M



2nd repeater from

STATION Wahiawa

LATITUDE D 21 M 24 S 15

LONGITUDE D 157 M 58 S 50

ELEVATION 24 M

TOWER HEIGHT 20 M

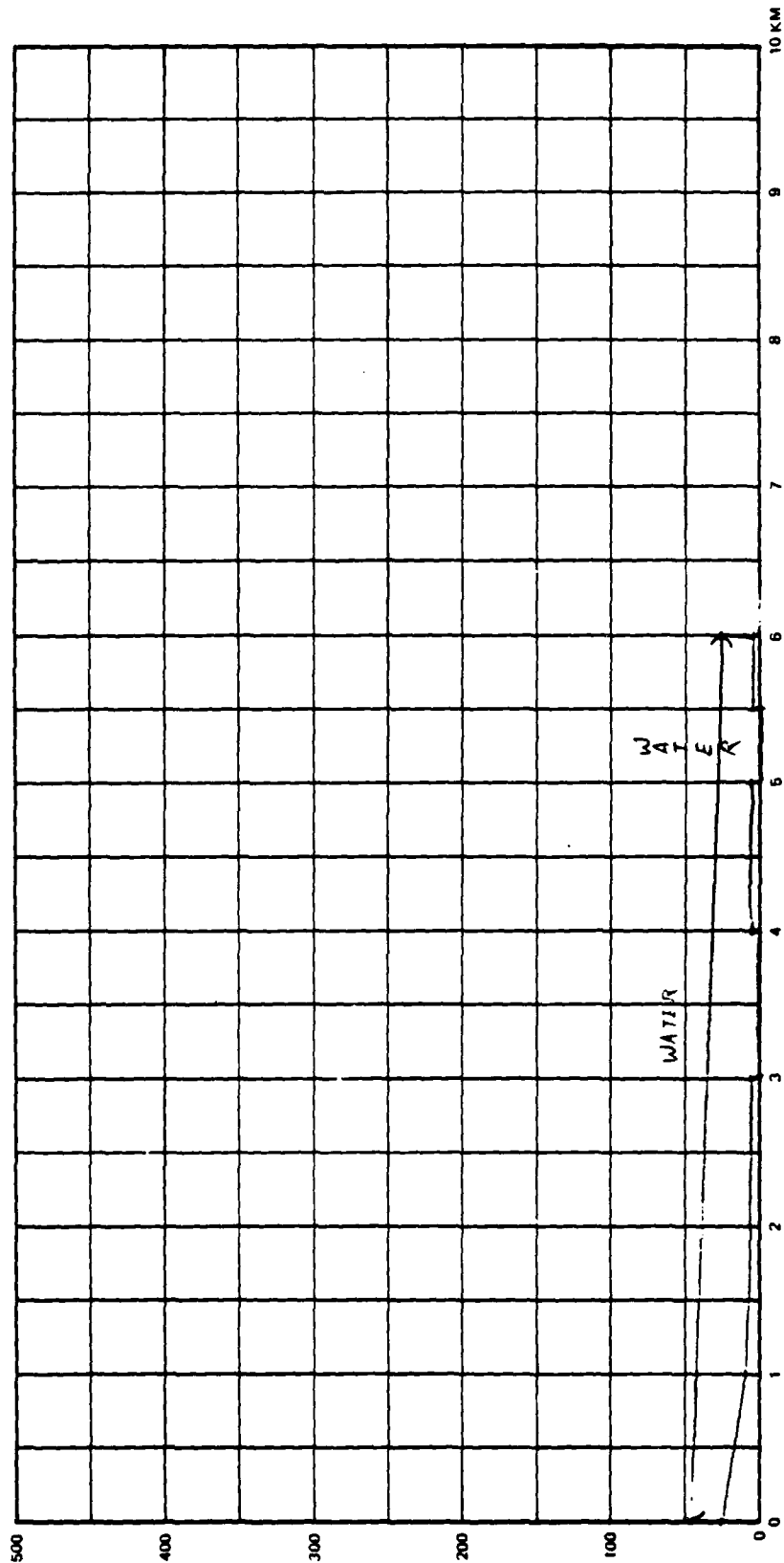
STATION Pearl Harbor

LATITUDE D 21 M 21 S 25

LONGITUDE D 157 M 57 S 30

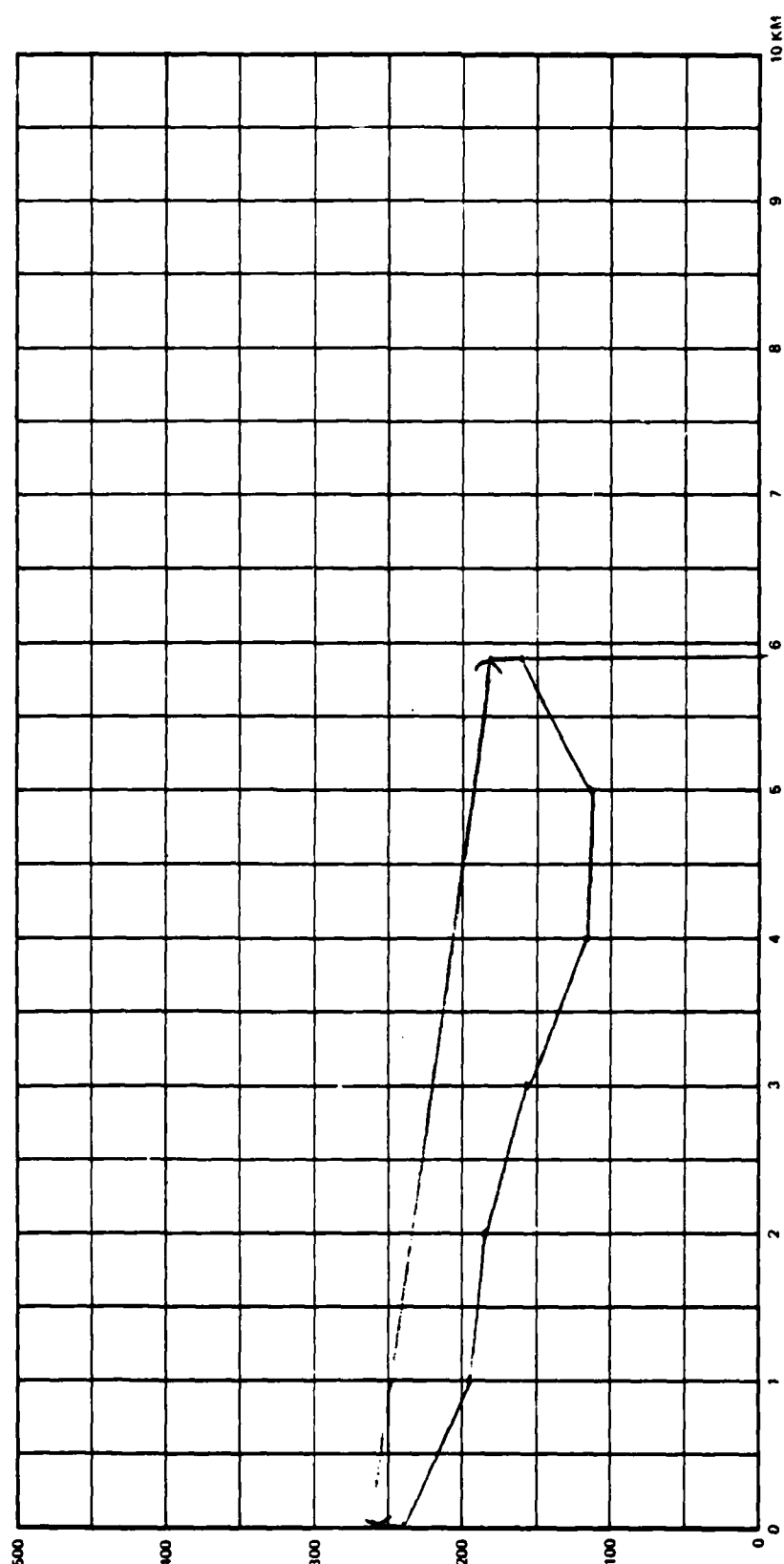
ELEVATION 6 M

TOWER HEIGHT 20 M



1st repeater to
 STATION Hickam
 LATITUDE D 21 M 26 S 00
 LONGITUDE D 158 M 02 S 00
 ELEVATION 158 M
 TOWER HEIGHT 20 M

STATION Wheeler
 LATITUDE D 21 M 29 S 15
 LONGITUDE D 158 M 02 S 30
 ELEVATION 242 M
 TOWER HEIGHT 20 M



1st repeater from

STATION Wheeler

LATITUDE D 21 M 26 S 00

LONGITUDE D 158 M 02 S 00

ELEVATION 158 M

TOWER HEIGHT 20 M

2nd repeater to

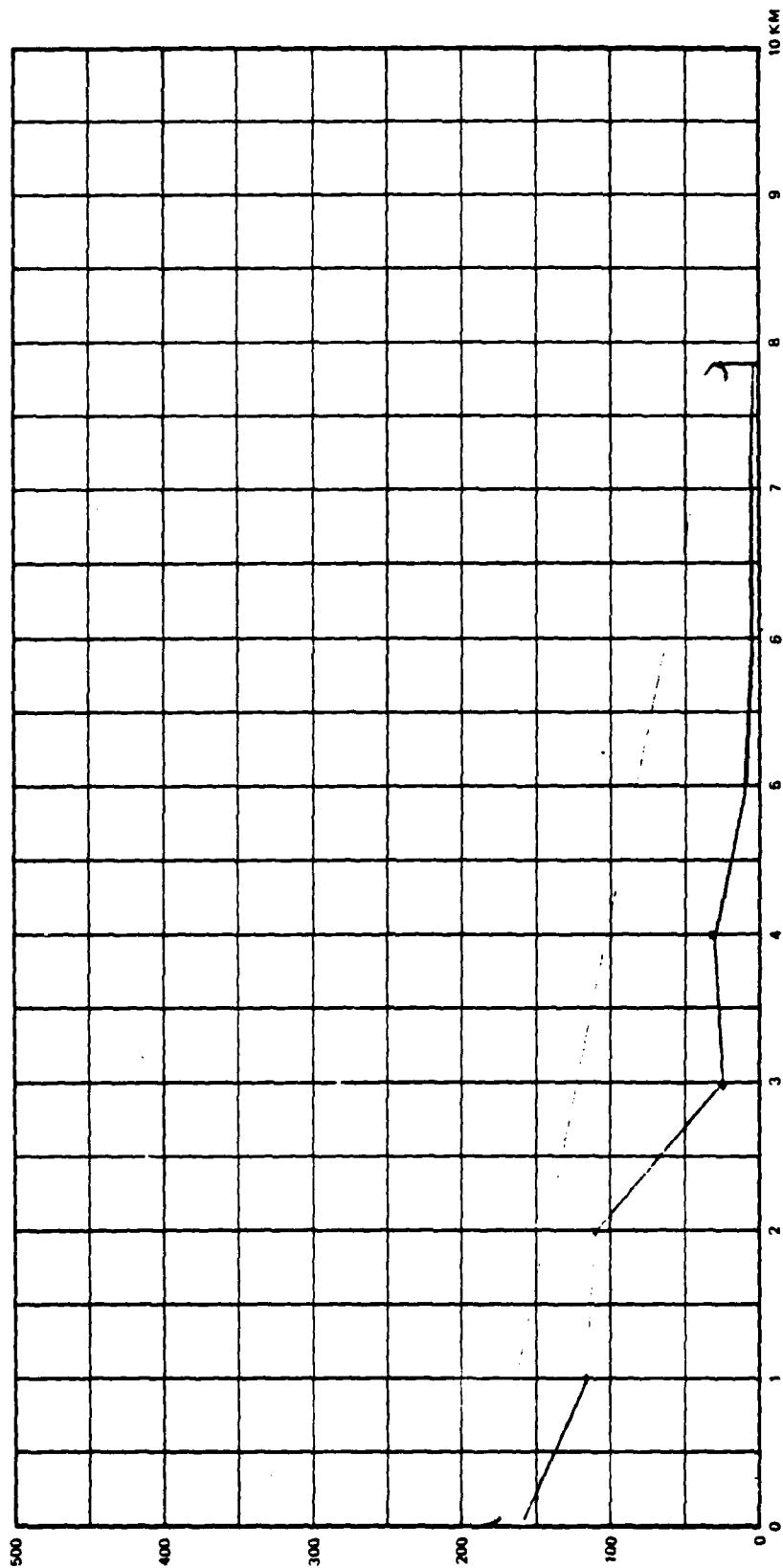
STATION Hickam

LATITUDE D 21 M 22 S 10

LONGITUDE D 158 M 59 S 40

ELEVATION 6 M

TOWER HEIGHT 20 M



2nd repeater from

STATION Wheeler

LATITUDE D 21 M 22 S 10

LONGITUDE D 158 M 59 S 40

ELEVATION 6 M

TOWER HEIGHT 20 M

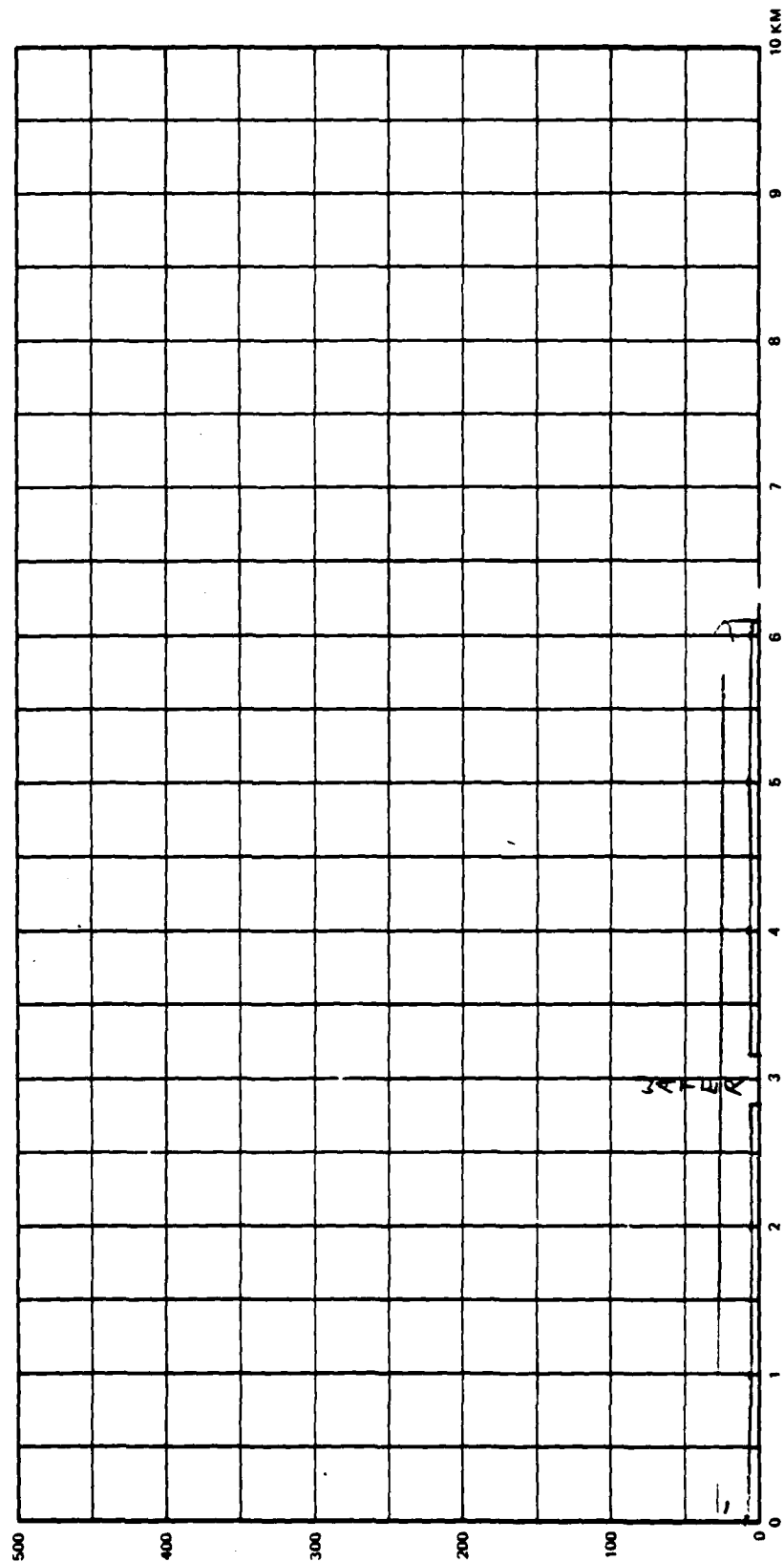
STATION Hickam

LATITUDE D 21 M 20 S 30

LONGITUDE D 157 M 57 S 45

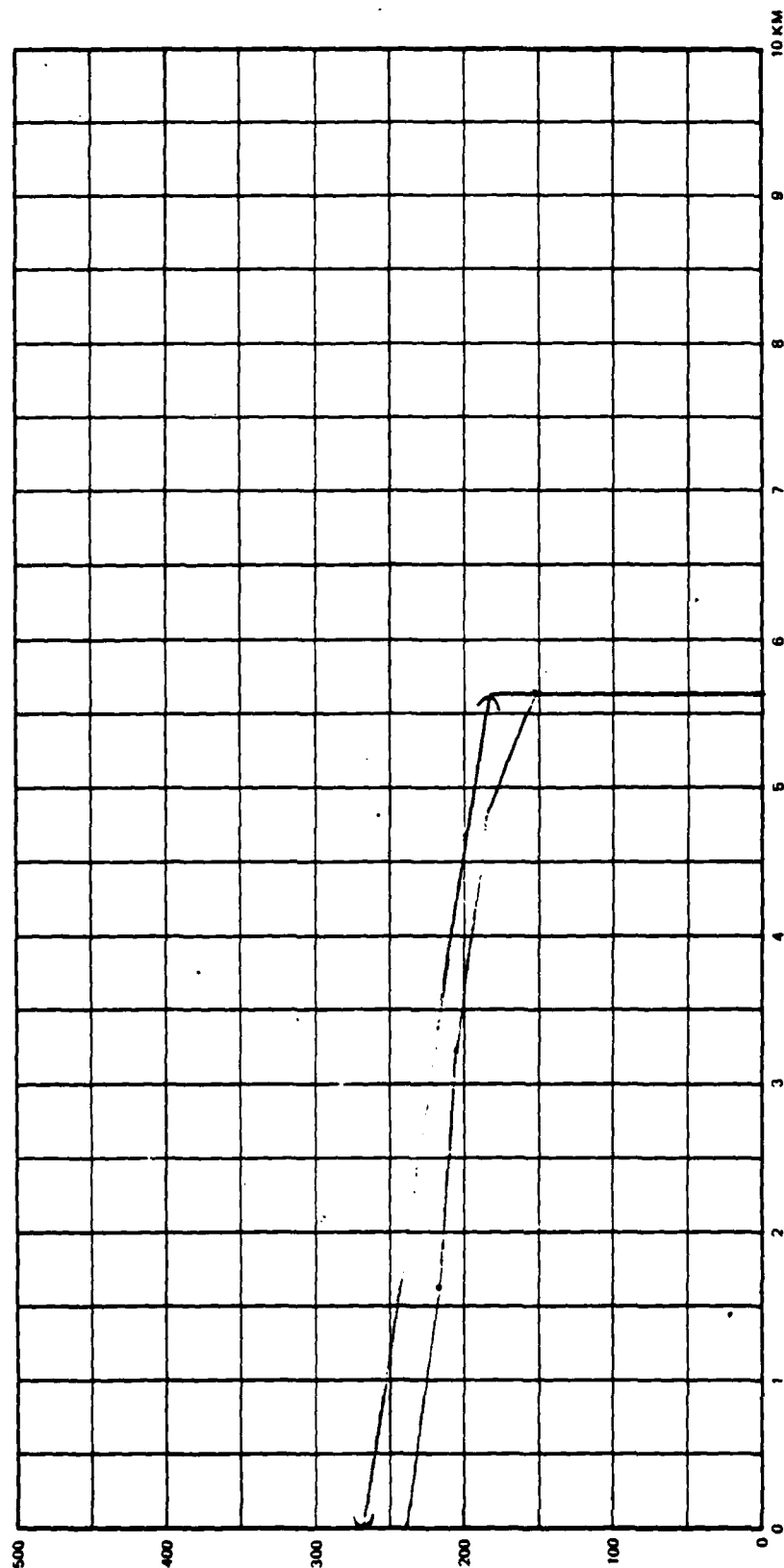
ELEVATION 3 M

TOWER HEIGHT 20 M



1st repeater to
 STATION Pearl Harbor
 LATITUDE D 21 M 26 S 15
 LONGITUDE D 158 M 00 S 30
 ELEVATION 152 M
 TOWER HEIGHT 30 M

STATION Wheeler
 LATITUDE D 21 M 29 S 15
 LONGITUDE D 158 M 02 S 30
 ELEVATION 244 M
 TOWER HEIGHT 30 M

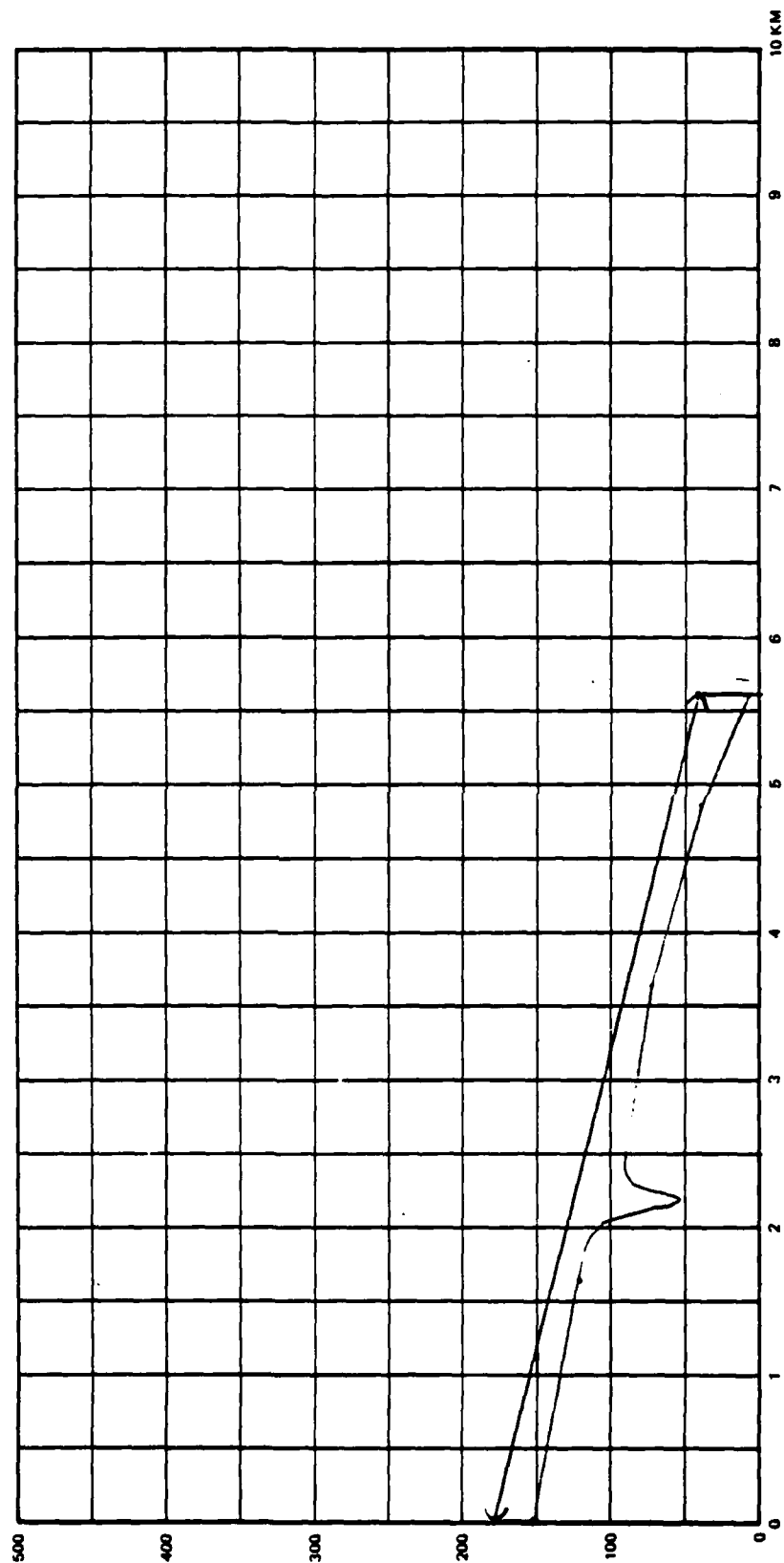


1st repeater from

STATION Wheeler
 LATITUDE D 21 M 26 S 15
 LONGITUDE D 158 M 00 S 30
 ELEVATION 152 M
 TOWER HEIGHT 30 M

2nd repeater to

STATION Pearl Harbor
 LATITUDE D 21 M 23 S 55
 LONGITUDE D 157 M 58 S 40
 ELEVATION 12 M
 TOWER HEIGHT 30 M



2nd repeater from

STATION Wheeler

LATITUDE D 21 M 23 S 55

LONGITUDE D 157 M 58 S 40

ELEVATION 12 M

TOWER HEIGHT 20 M

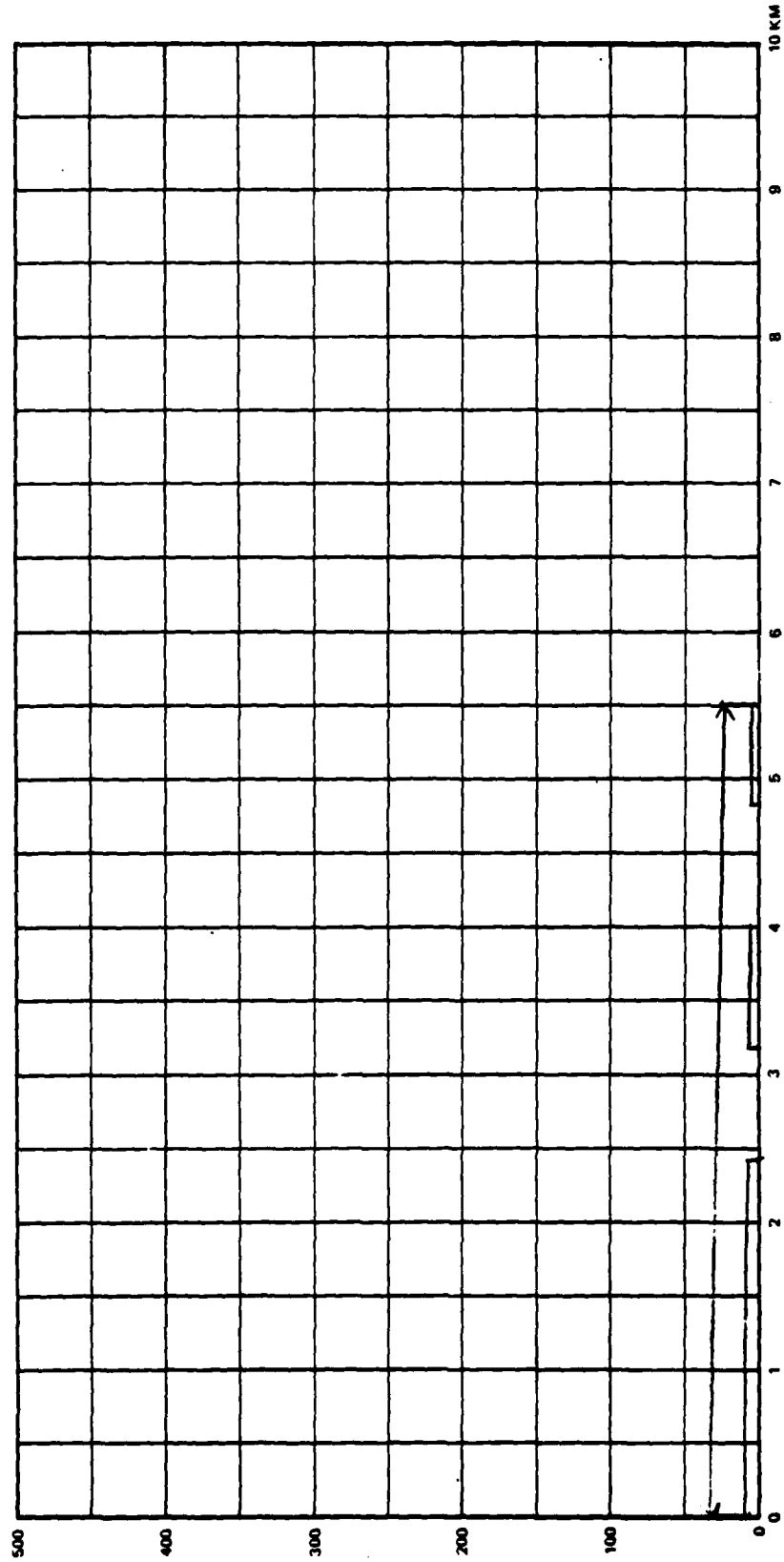
STATION Pearl Harbor

LATITUDE D 21 M 21 S 25

LONGITUDE D 157 M 57 S 30

ELEVATION 6 M

TOWER HEIGHT 20 M



A.3 MICROWAVE PATH PROFILES OF CENTRAL GERMANY

A.3.1

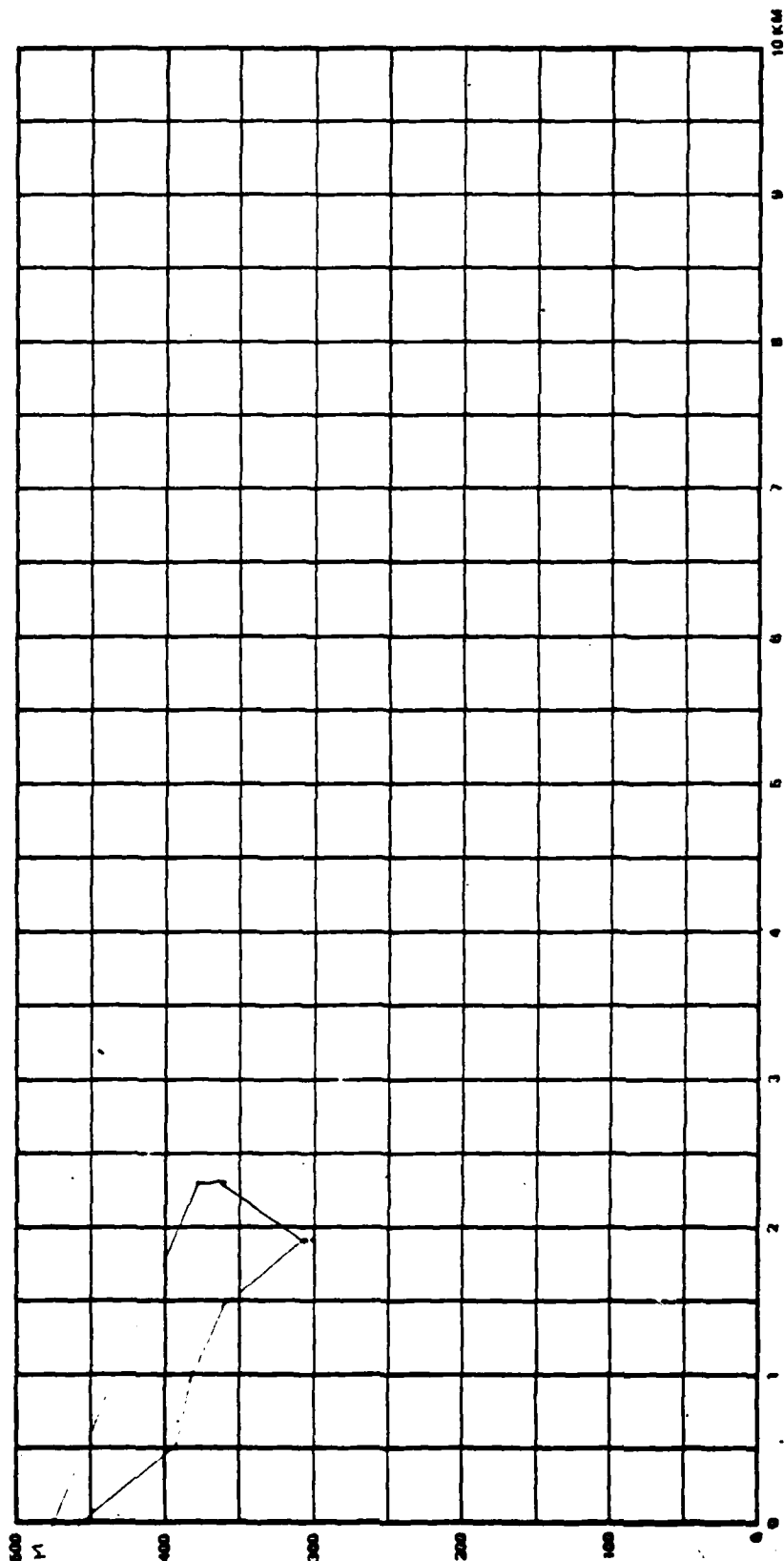
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STATION Bann

LATITUDE D 49 M 23 S 55
 LONGITUDE D 07 M 35 S 48
 ELEVATION 460 M
 TOWER HEIGHT 20 M

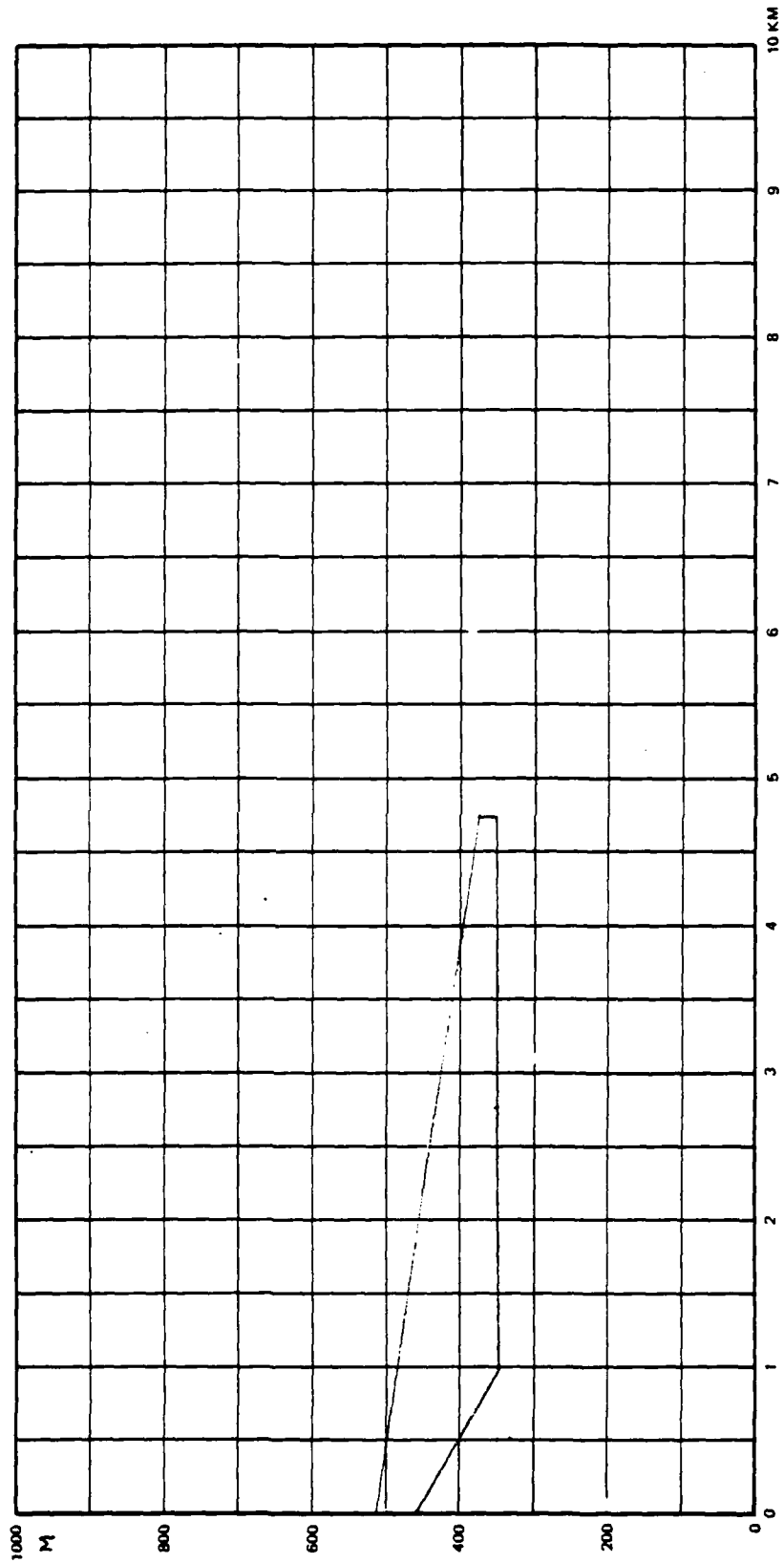
STATION Kindsbach

LATITUDE D 49 M 24 S 48
 LONGITUDE D 07 M 36 S 52
 ELEVATION 360 M
 TOWER HEIGHT 20 M



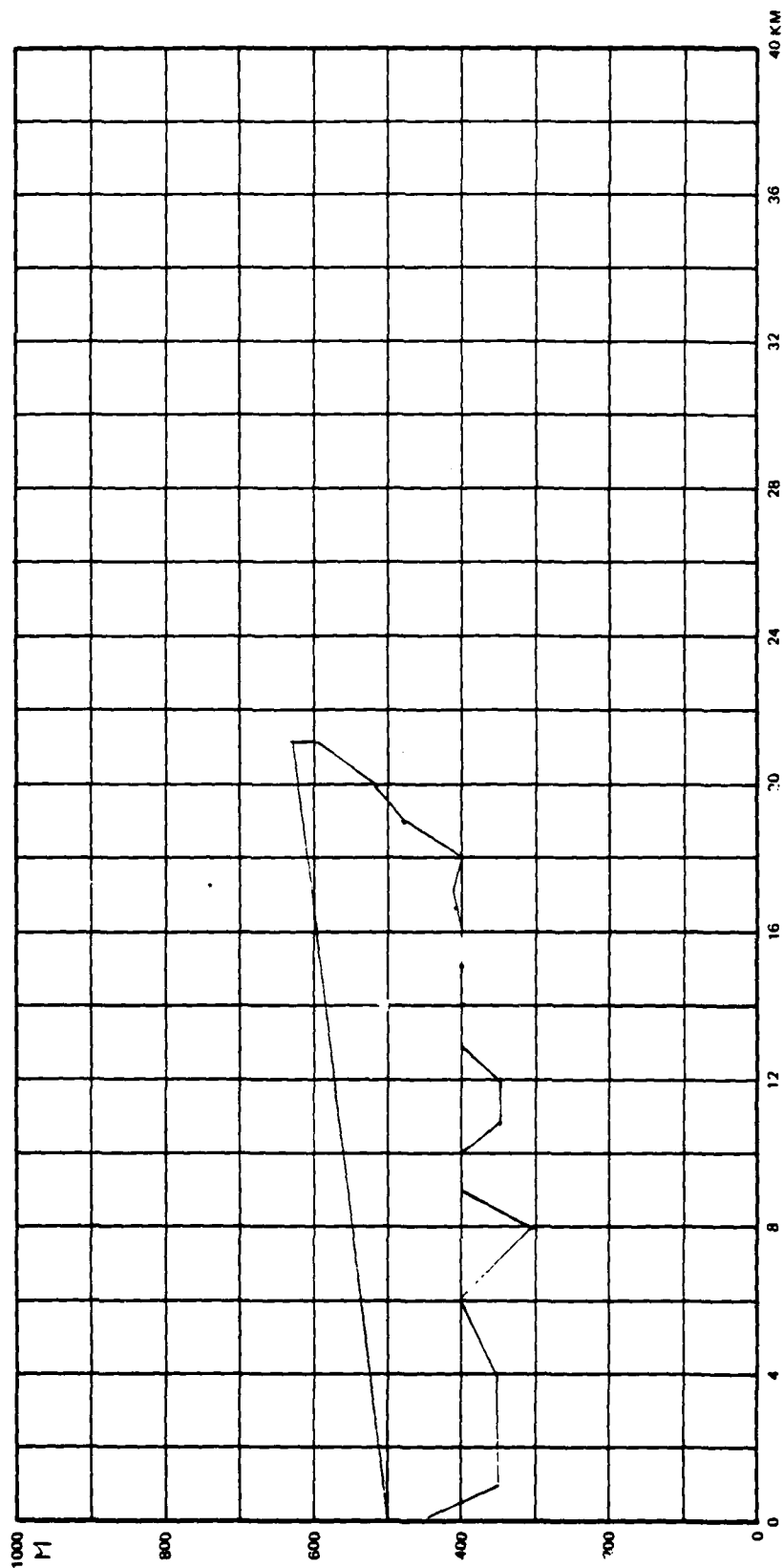
STATION Landstuhl
 LATITUDE D 49 M 24 S 00
 LONGITUDE D 07 M 32 S 04
 ELEVATION 341 M
 TOWER HEIGHT 27 M

STATION Bann
 LATITUDE D 49 M 23 S 55
 LONGITUDE D 07 M 35 S 18
 ELEVATION 460 M
 TOWER HEIGHT 53 M



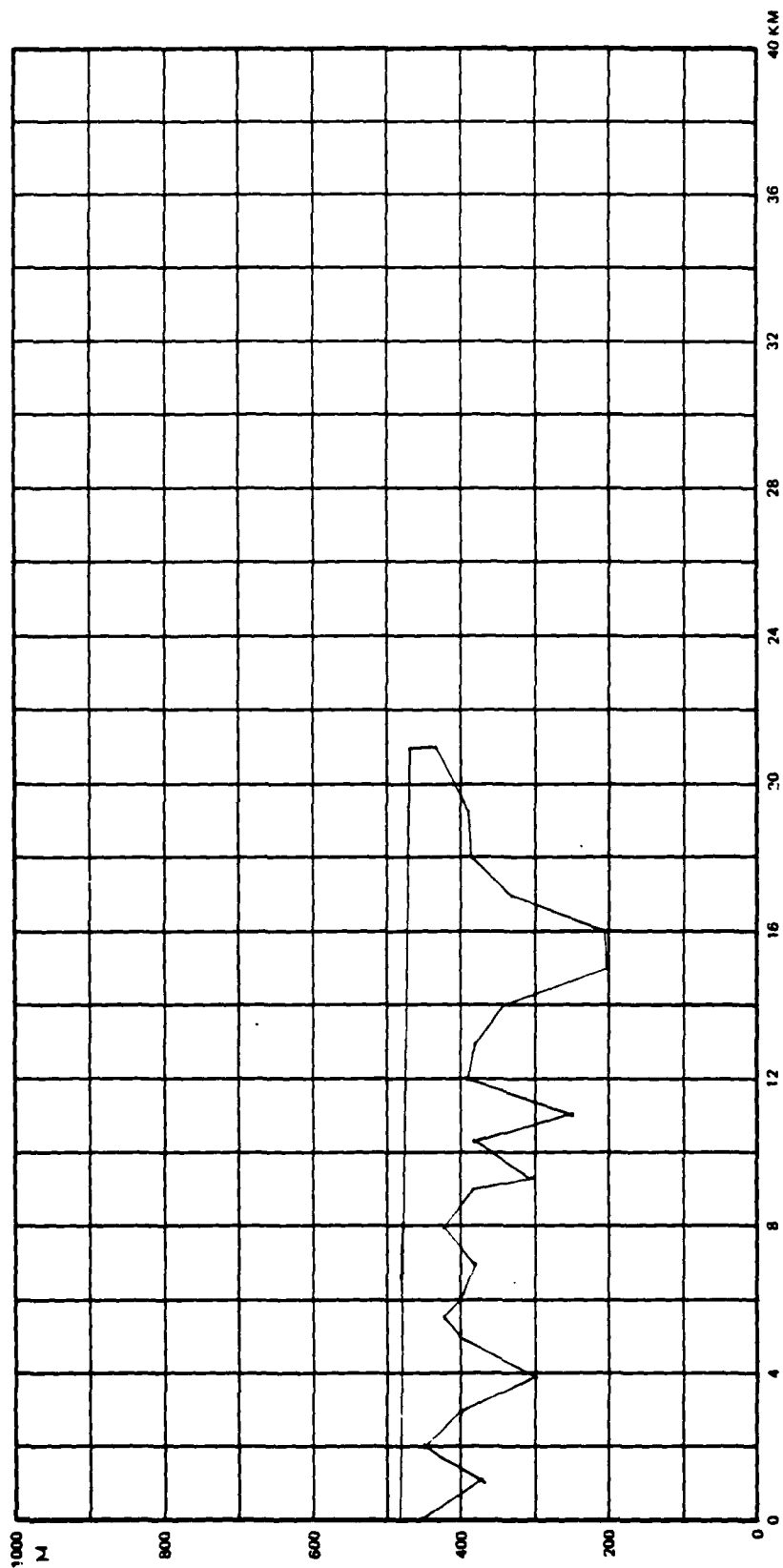
STATION Langerkopf
 LATITUDE D 49 M 18 S 04
 LONGITUDE D 07 M 50 S 39
 ELEVATION 596 M
 TOWER HEIGHT 40 M

STATION Bann
 LATITUDE D 49 M 23 S 55
 LONGITUDE D 07 M 35 S 18
 ELEVATION 460 M
 TOWER HEIGHT 40 M



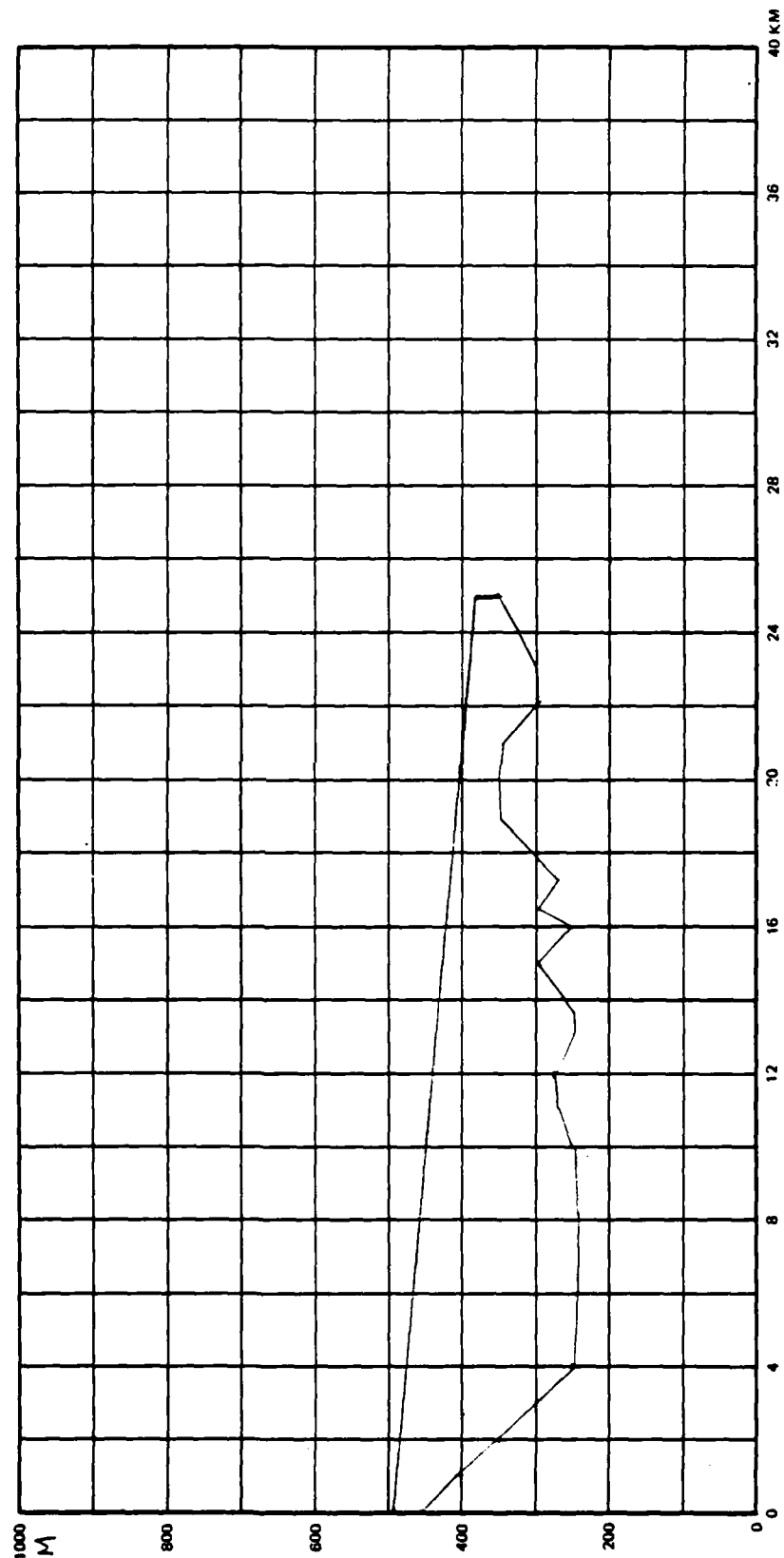
STATION Pirmasens
 LATITUDE D 49 M 13 S 01
 LONGITUDE D 07 M 36 S 35
 ELEVATION 439 M
 TOWER HEIGHT 30 M

STATION Bann
 LATITUDE D 49 M 23 S 55
 LONGITUDE D 07 M 35 S 18
 ELEVATION 460 M
 TOWER HEIGHT 20 M



STATION Sembach
 LATITUDE D 49 M 31 S 46
 LONGITUDE D 07 M 52 S 07
 ELEVATION 351 M
 TOWER HEIGHT 35 M

STATION Bann
 LATITUDE D 49 M 23 S 55
 LONGITUDE D 07 M 35 S 18
 ELEVATION 460 M
 TOWER HEIGHT 35 M

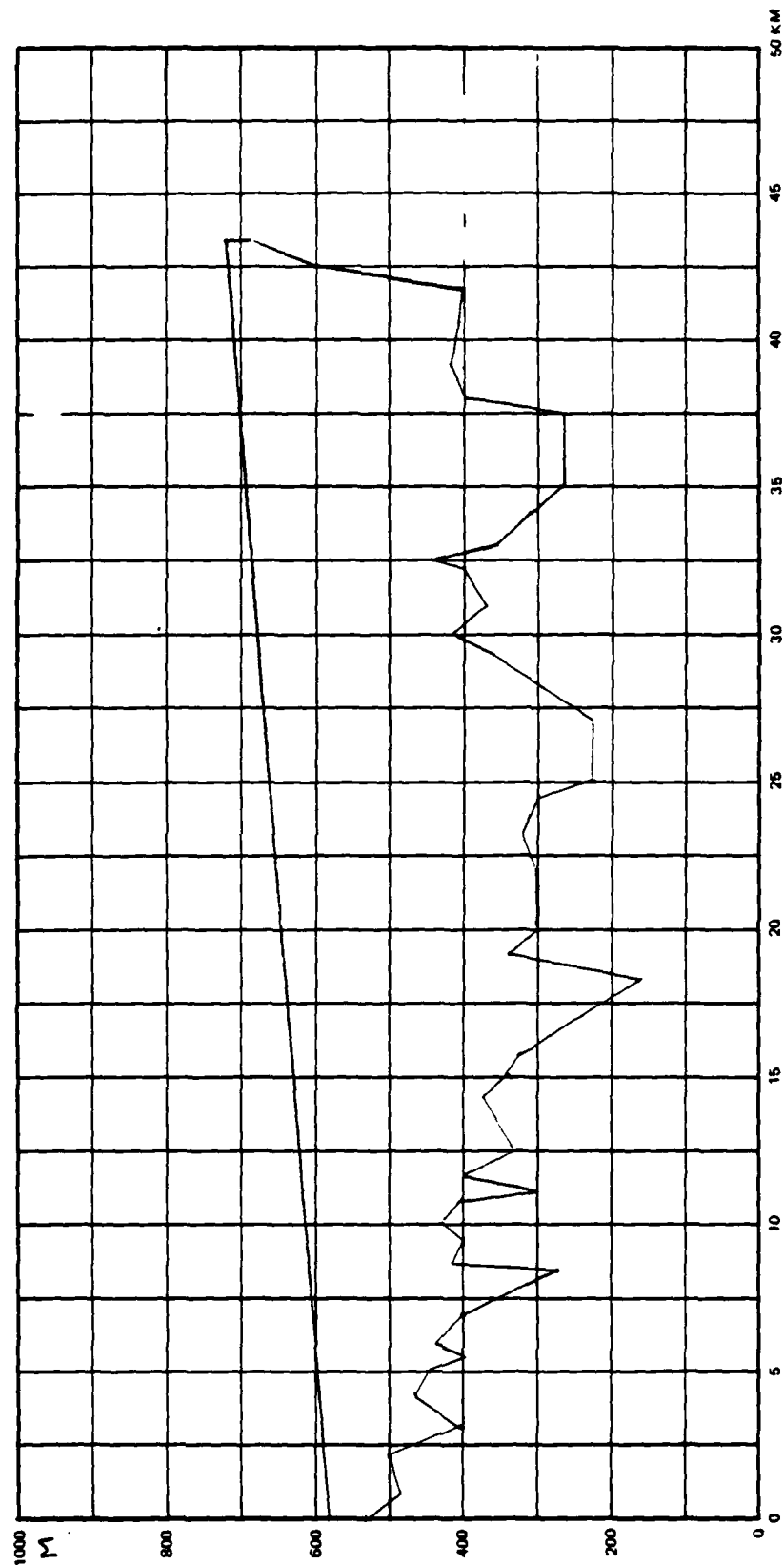


STATION Baumholder

LATITUDE D 49 M 38 S 8
LONGITUDE D 07 M 19 S 33
ELEVATION 531 M
TOWER HEIGHT 39 M

STATION Donnersberg

LATITUDE D 49 M 37 S 23
LONGITUDE D 07 M 55 S 13
ELEVATION 685 M
TOWER HEIGHT 40 M



STATION Baumholder

LATITUDE D 49 M 38 S 08

LONGITUDE D 07 M 19 S 33

ELEVATION 531 M

TOWER HEIGHT 39 M

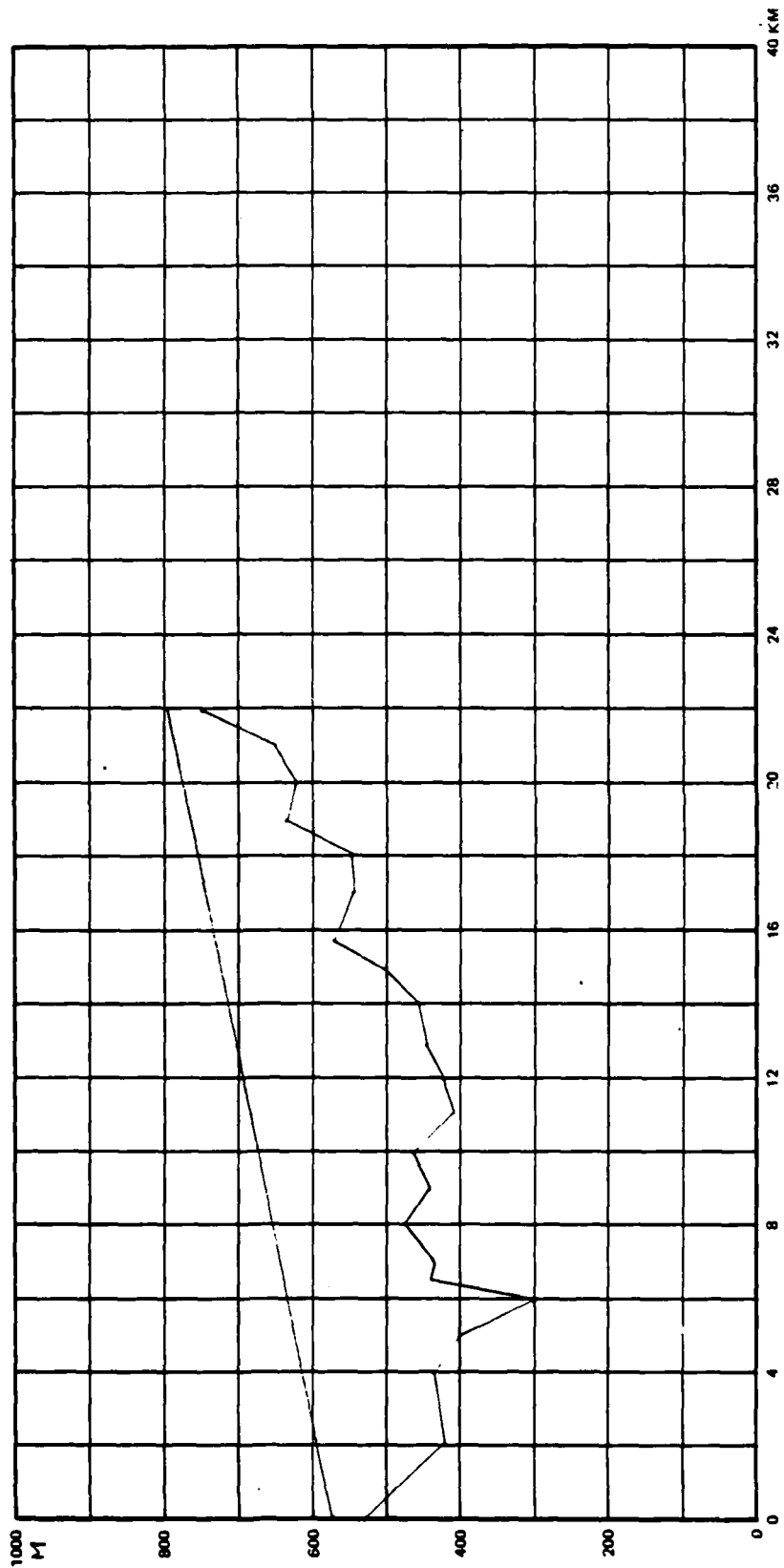
STATION Muhl

LATITUDE D 49 M 40 S 45

LONGITUDE D 07 M 01 S 40

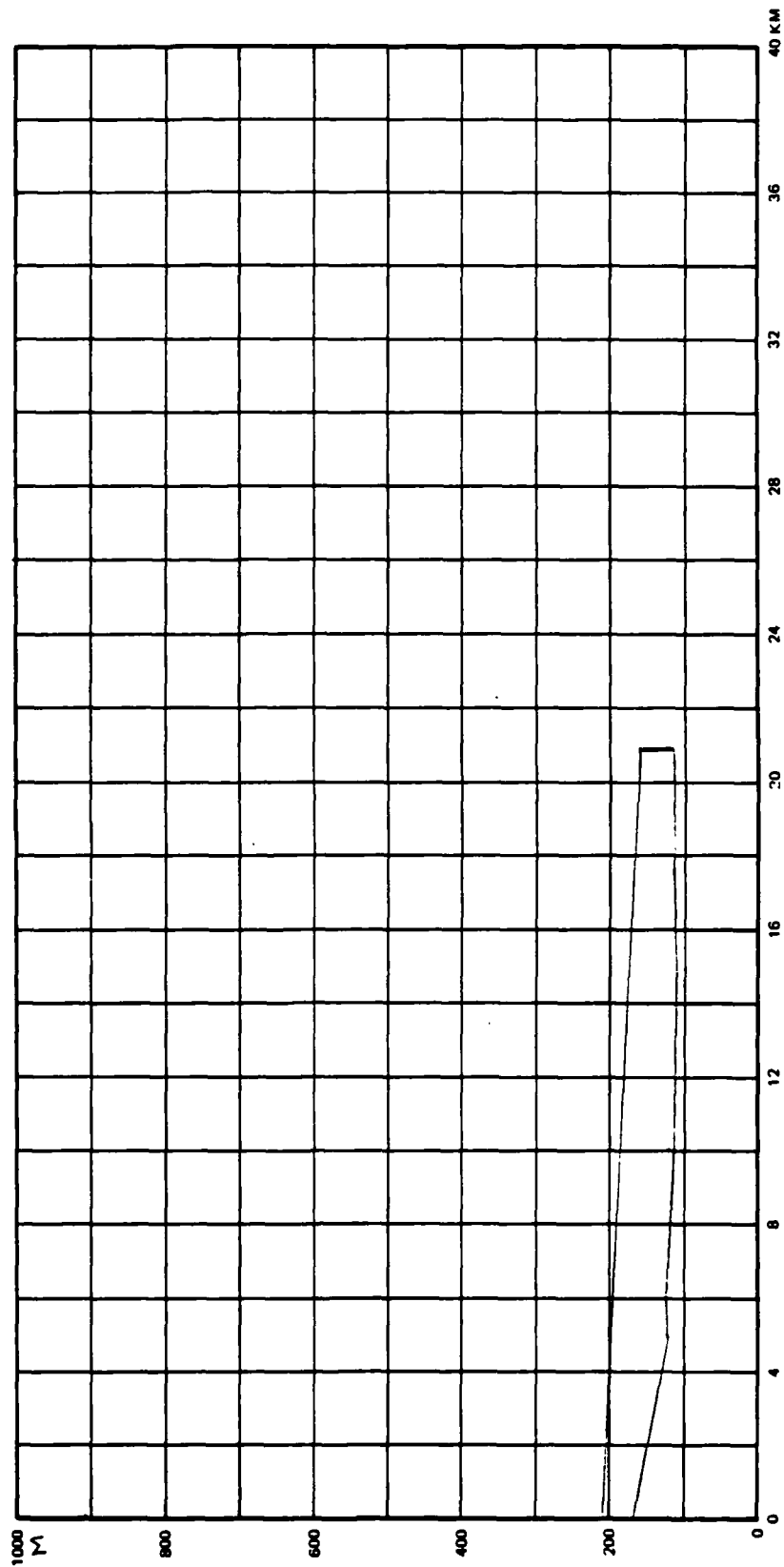
ELEVATION 756 M

TOWER HEIGHT 40 M



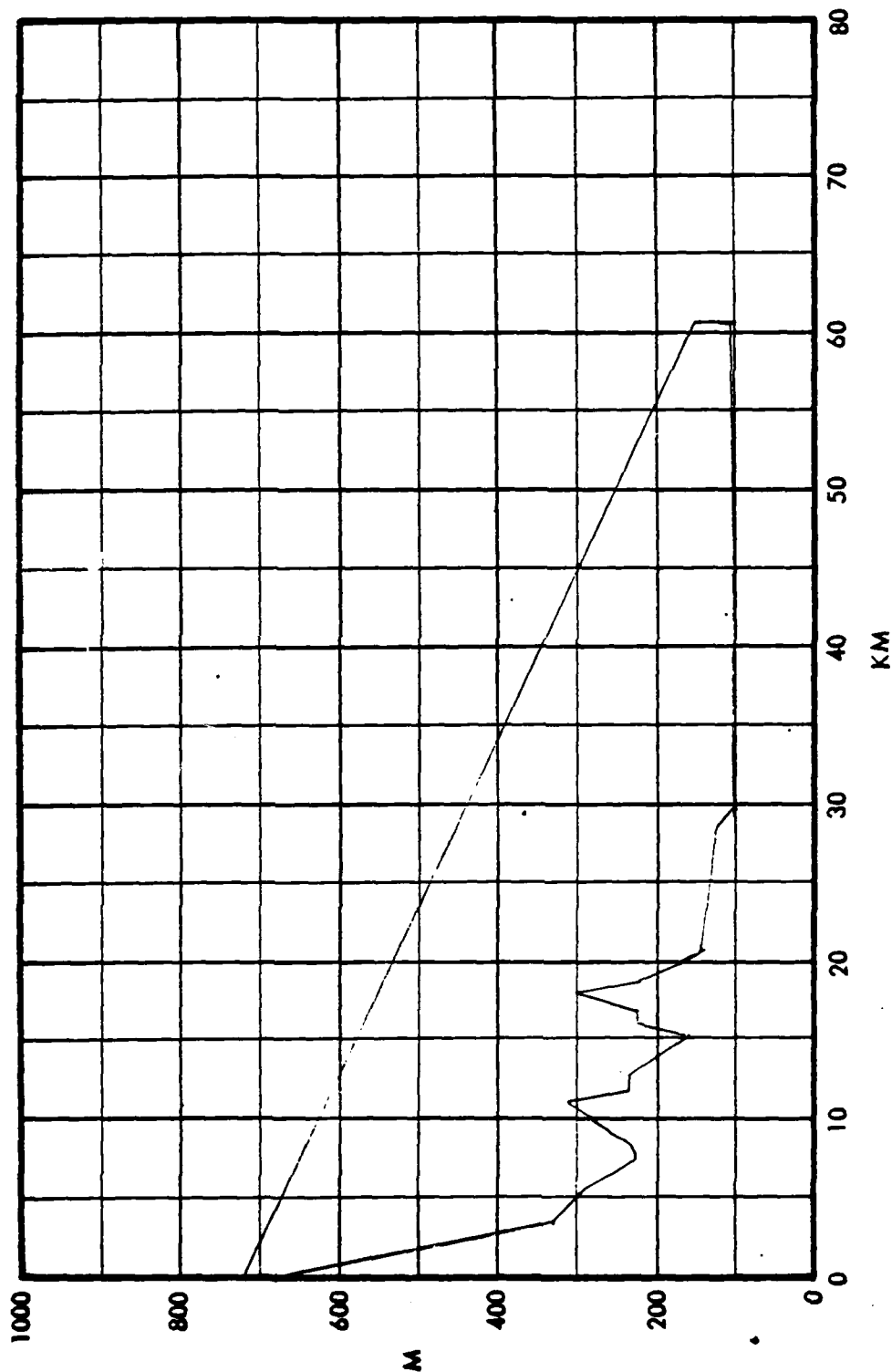
STATION Darmstadt
 LATITUDE D 49 M 50 S 55
 LONGITUDE D 08 M 39 S 19
 ELEVATION 170 M
 TOWER HEIGHT 40 M

STATION Rhine Main
 LATITUDE D 50 M 01 S 51
 LONGITUDE D 08 M 34 S 55
 ELEVATION 108 M
 TOWER HEIGHT 40 M



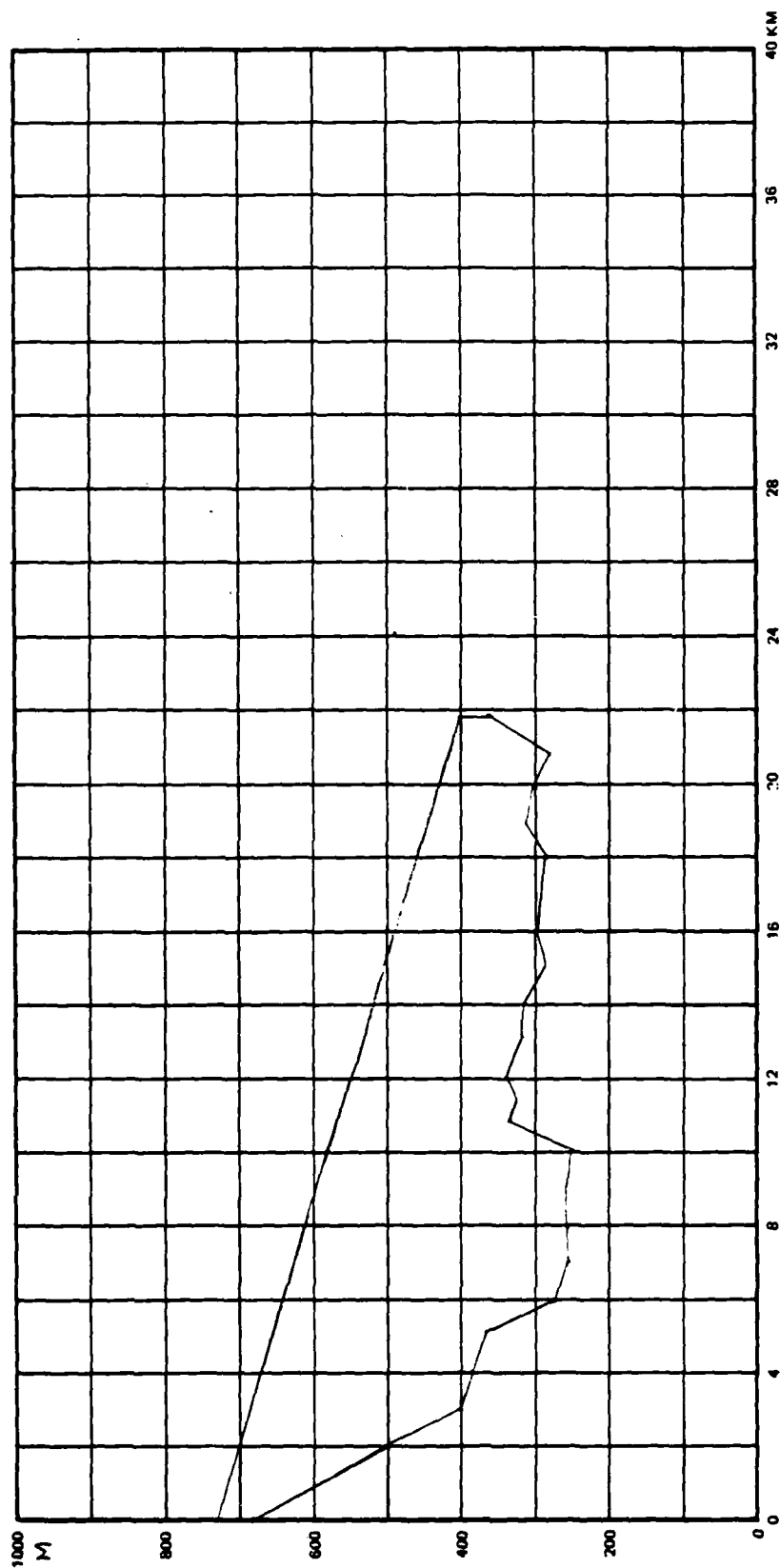
STATION Heidelberg
 LATITUDE D 49 M 23 S 12
 LONGITUDE D 08 M 41 S 00
 ELEVATION 111 M
 TOWER HEIGHT 40 M

STATION Donnersberg
 LATITUDE D 49 M 37 S 23
 LONGITUDE D 07 M 55 S 13
 ELEVATION 685 M
 TOWER HEIGHT 40 M



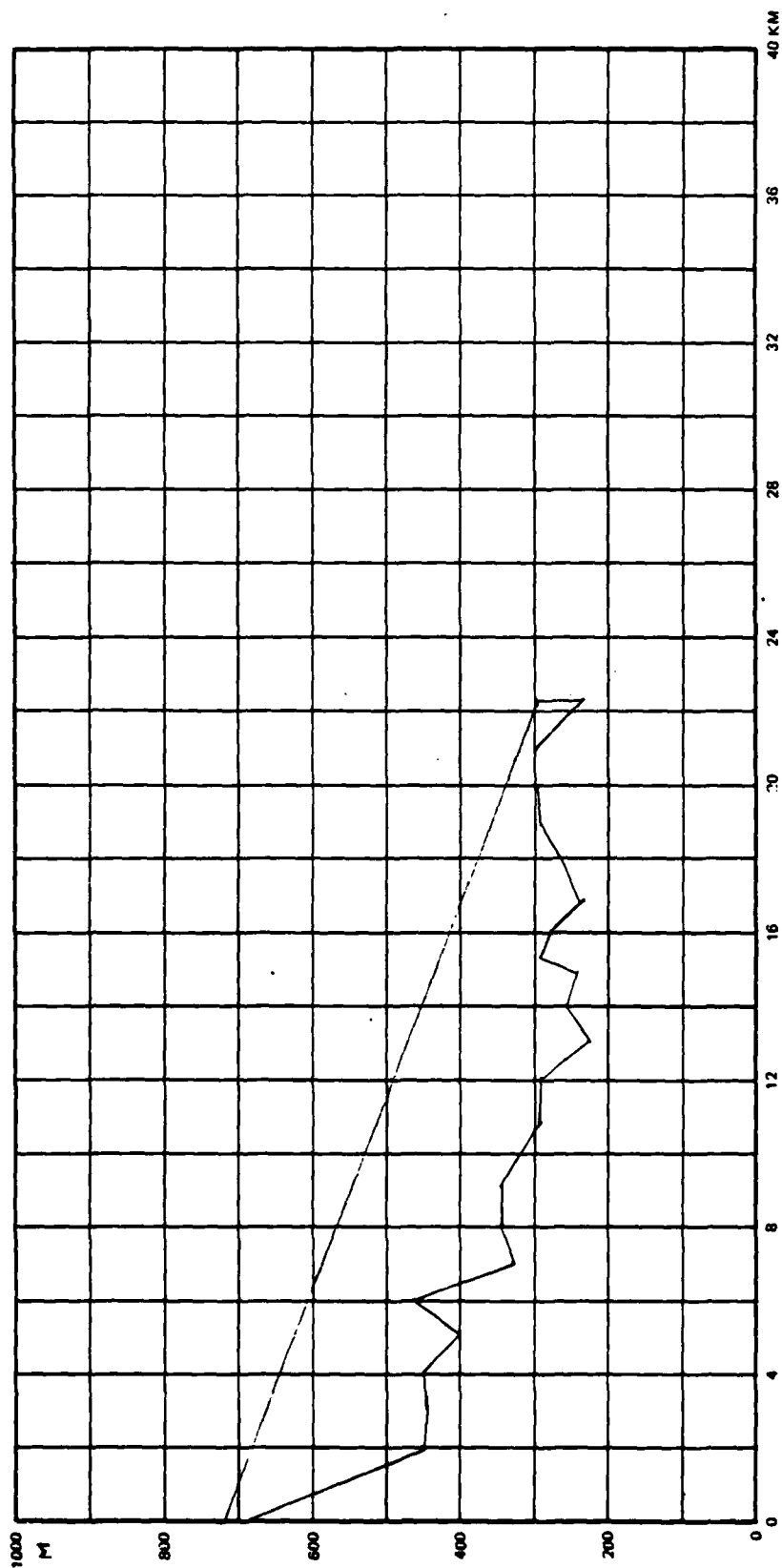
STATION Donnersberg
 LATITUDE D 49 M 37 S 23
 LONGITUDE D 07 M 55 S 13
 ELEVATION 685 M
 TOWER HEIGHT 41 M

STATION Kaisers Lantern
 LATITUDE D 49 M 26 S 40
 LONGITUDE D 07 M 50 S 30
 ELEVATION 366 M
 TOWER HEIGHT 30 M



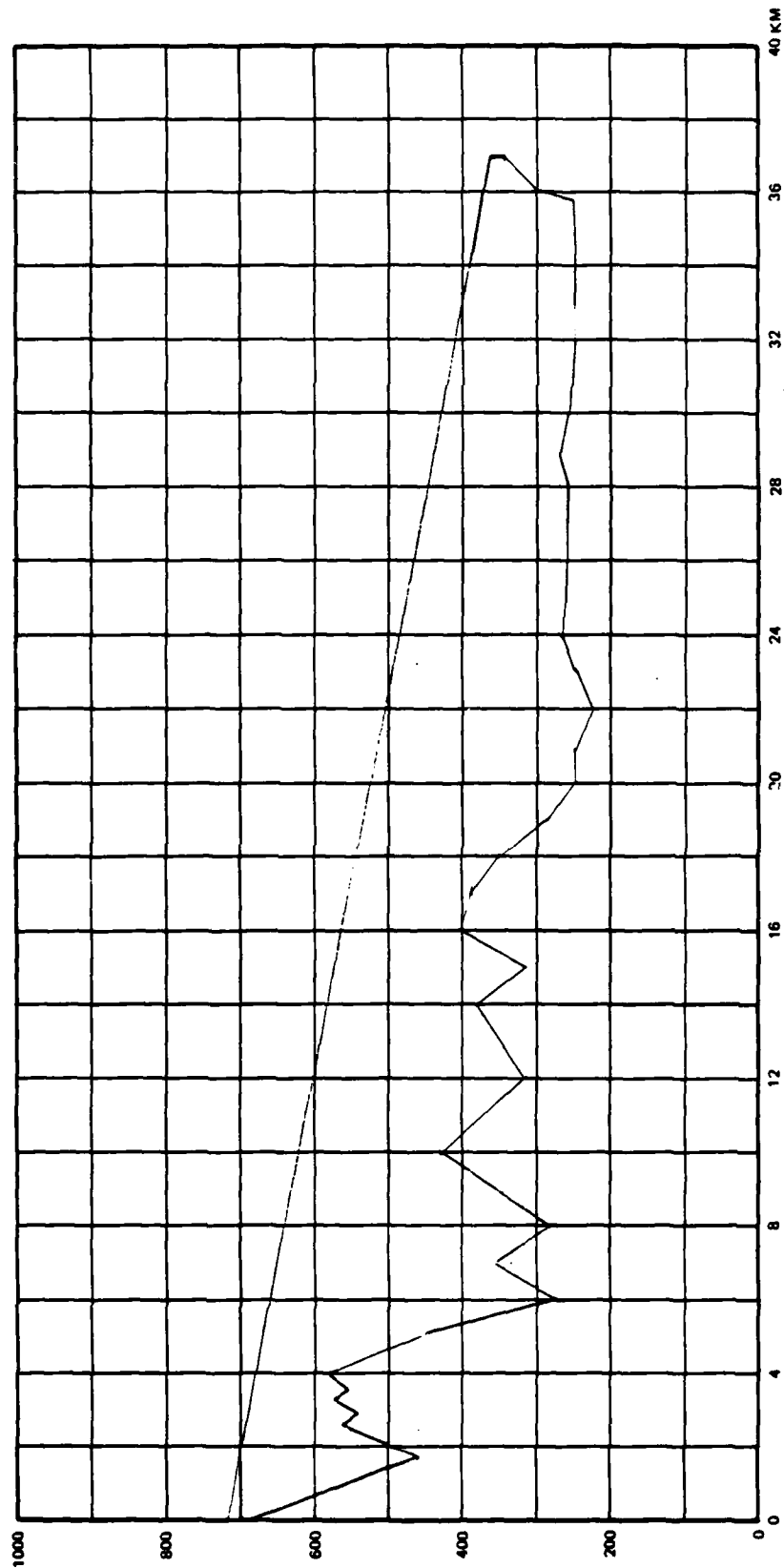
STATION Donnersberg
 LATITUDE D 49 M 37 S 23
 LONGITUDE D 07 M 55 S 13
 ELEVATION 685 M
 TOWER HEIGHT 41 M

STATION B. Krenznach
 LATITUDE D 49 M 49 S 27
 LONGITUDE D 07 M 51 S 53
 ELEVATION 237 M
 TOWER HEIGHT 66 M



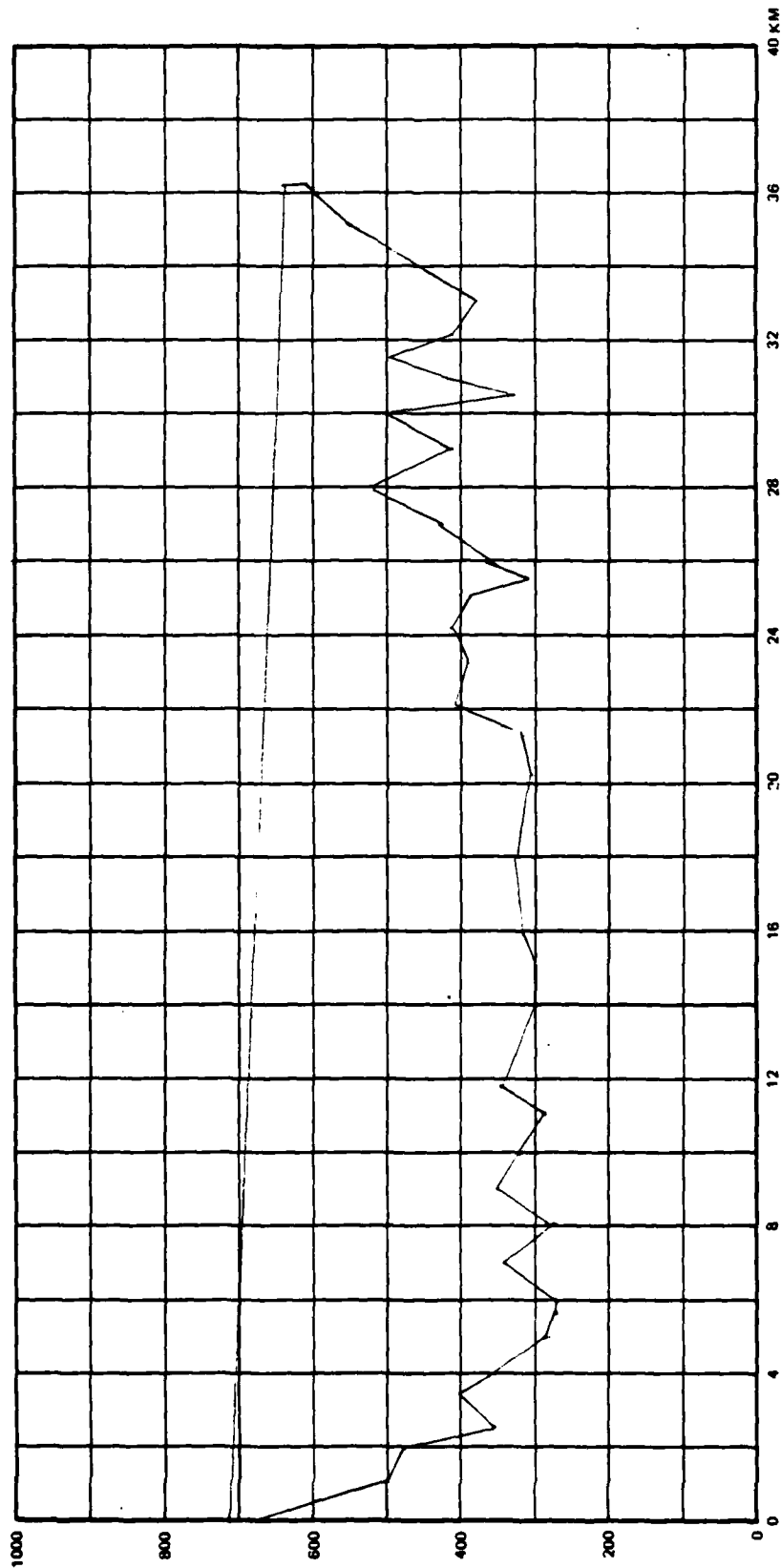
STATION Donnersberg
 LATITUDE D 49 M 37 S 23
 LONGITUDE D 07 M 55 S 13
 ELEVATION 685 M
 TOWER HEIGHT 40 M

STATION Landstuhl
 LATITUDE D 49 M 24 S 00
 LONGITUDE D 07 M 32 S 04
 ELEVATION 341 M
 TOWER HEIGHT 30 M



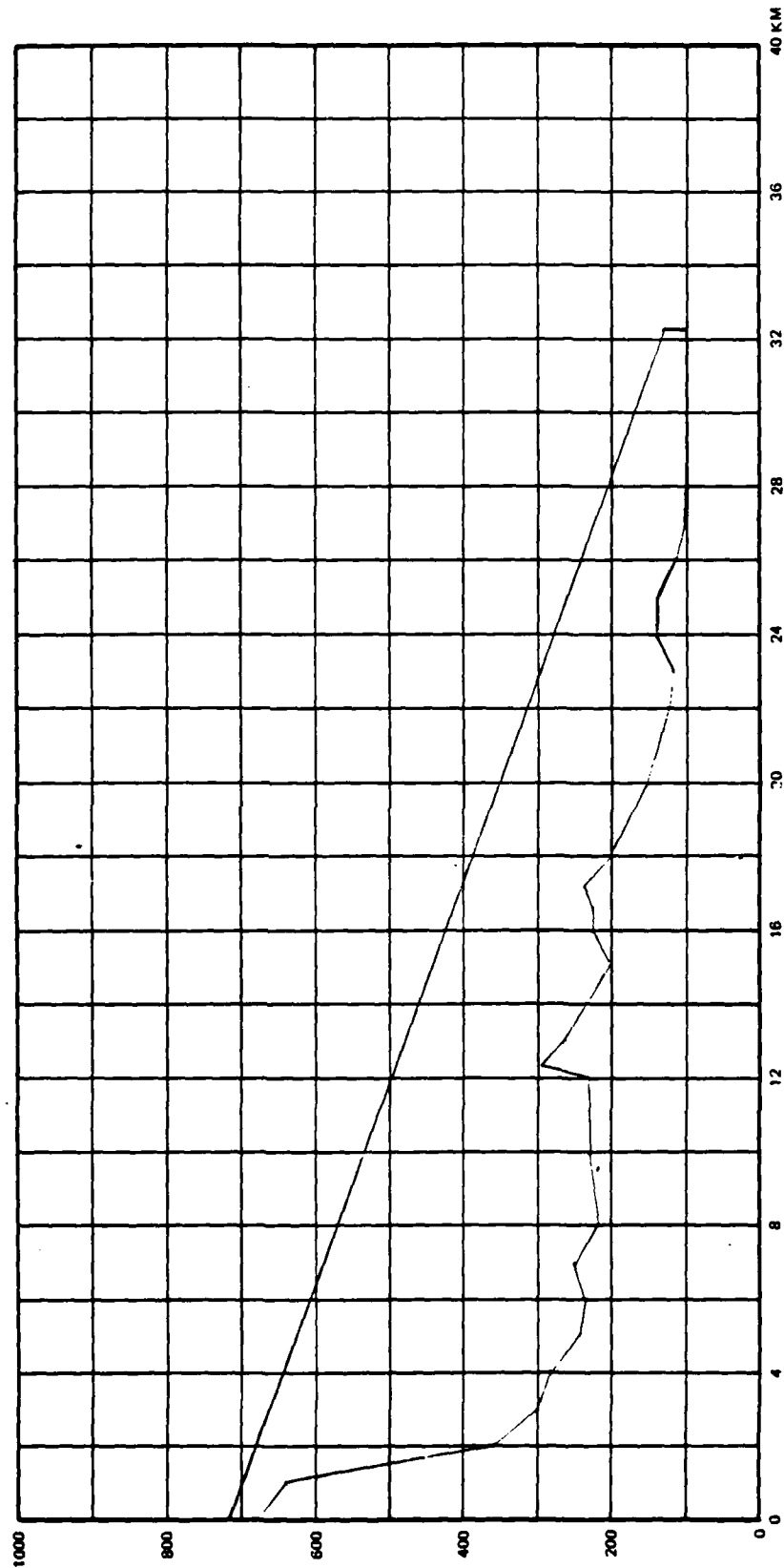
STATION Donnersberg
 LATITUDE D 49 M 37 S 23
 LONGITUDE D 07 M 55 S 13
 ELEVATION 685 M
 TOWER HEIGHT 30 M

STATION Langerkopf
 LATITUDE D 49 M 18 S 04
 LONGITUDE D 07 M 50 S 39
 ELEVATION 608 M
 TOWER HEIGHT 30 M



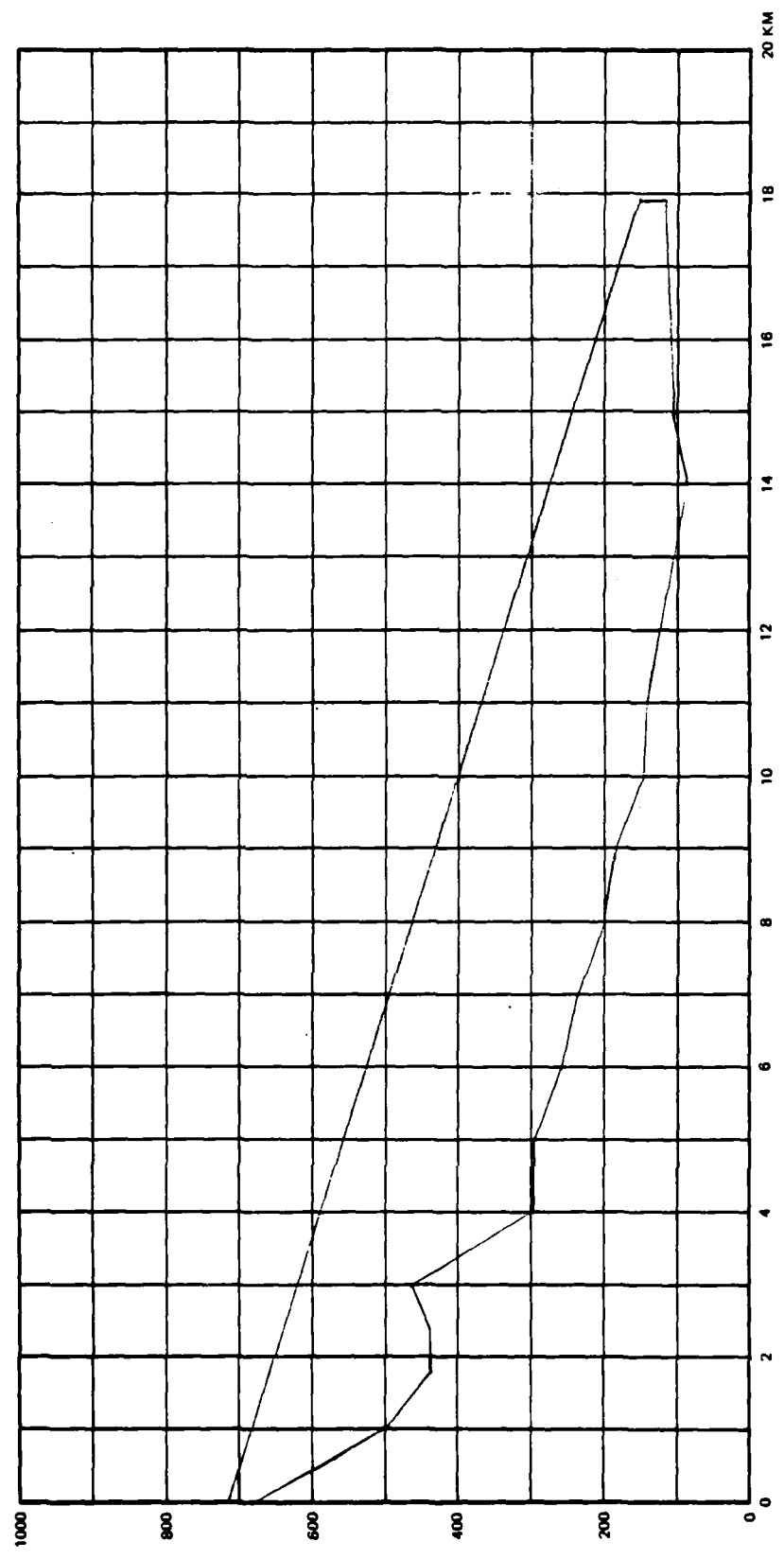
STATION Donnersberg
 LATITUDE D 49 M 37 S 23
 LONGITUDE D 07 M 55 S 13
 ELEVATION 685 M
 TOWER HEIGHT 30 M

STATION Worms
 LATITUDE D 49 M 38 S 28
 LONGITUDE D 08 M 21 S 40
 ELEVATION 101 M
 TOWER HEIGHT 30 M



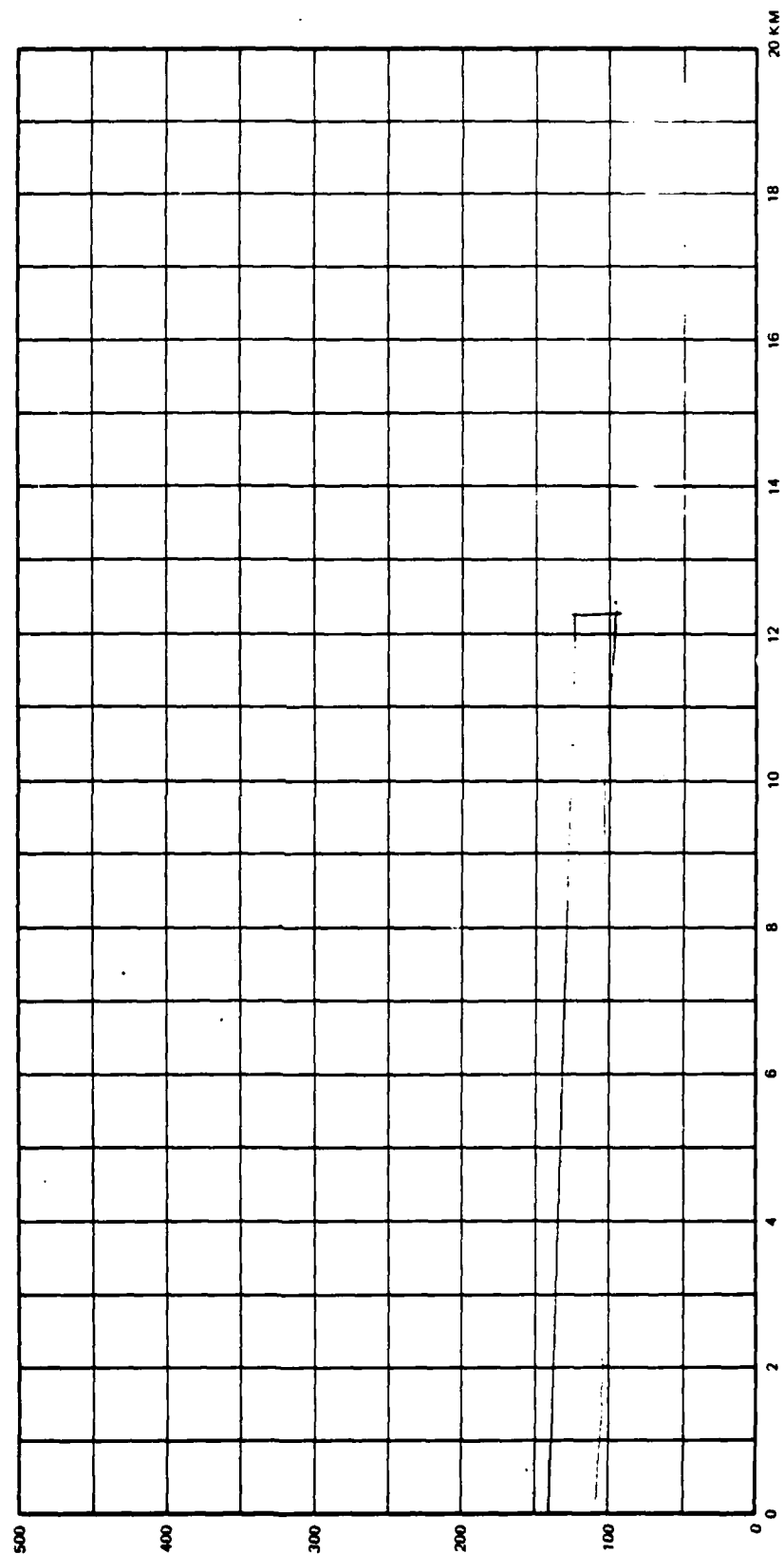
STATION Feldberg
 LATITUDE D 50 M 14 S 32
 LONGITUDE D 08 M 29 S 46
 ELEVATION 680 M
 TOWER HEIGHT 40 M

STATION Frankfurt
 LATITUDE D 50 M 07 S 41
 LONGITUDE D 08 M 40 S 15
 ELEVATION 119 M
 TOWER HEIGHT 40 M



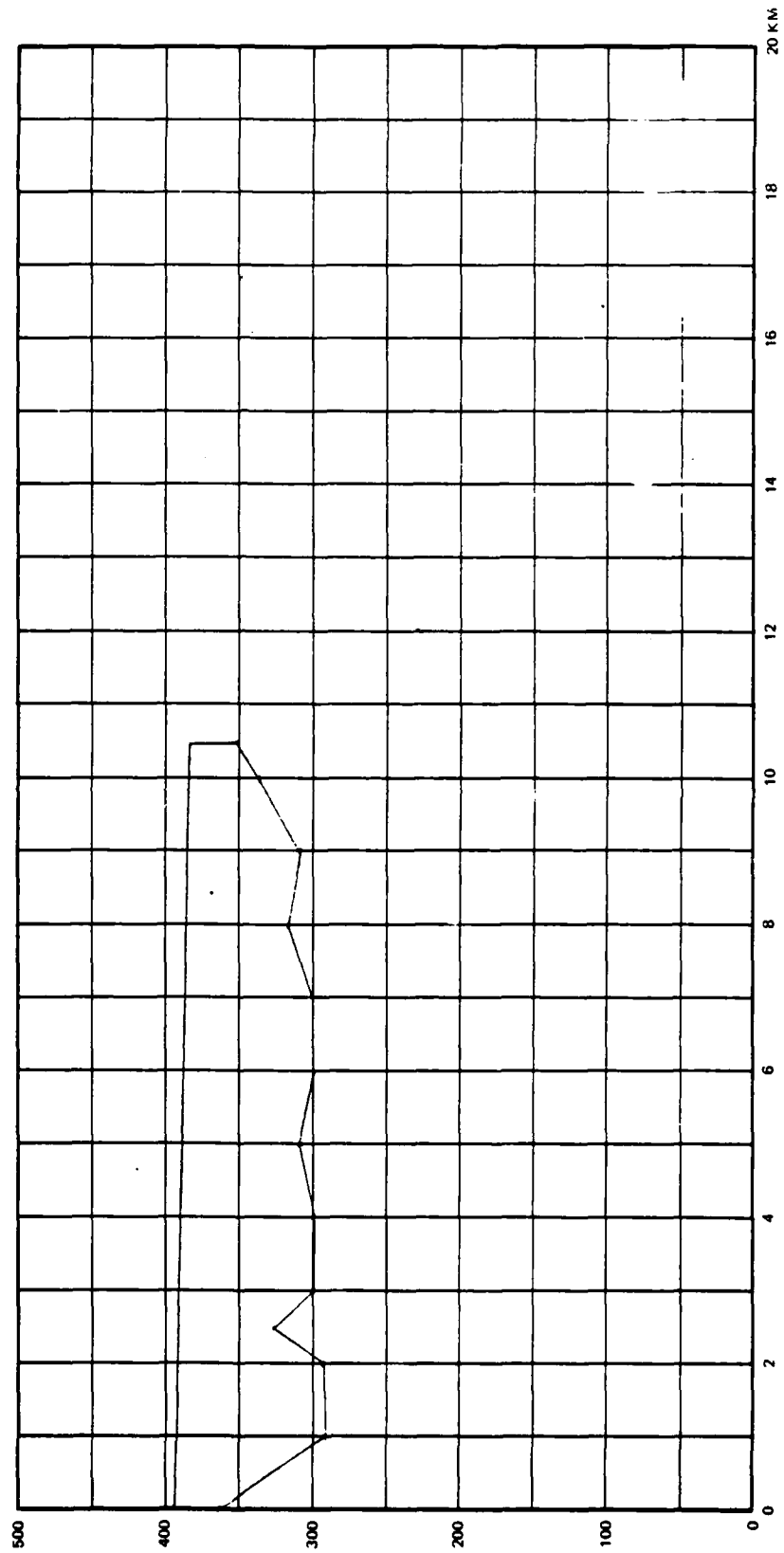
STATION Heidelberg
 LATITUDE D 49 M 23 S 12
 LONGITUDE D 08 M 41 S 00
 ELEVATION 111 M
 TOWER HEIGHT 30 M

STATION Seckenheim
 LATITUDE D 49 M 28 S 00
 LONGITUDE D 08 M 34 S 00
 ELEVATION 95 M
 TOWER HEIGHT 30 M



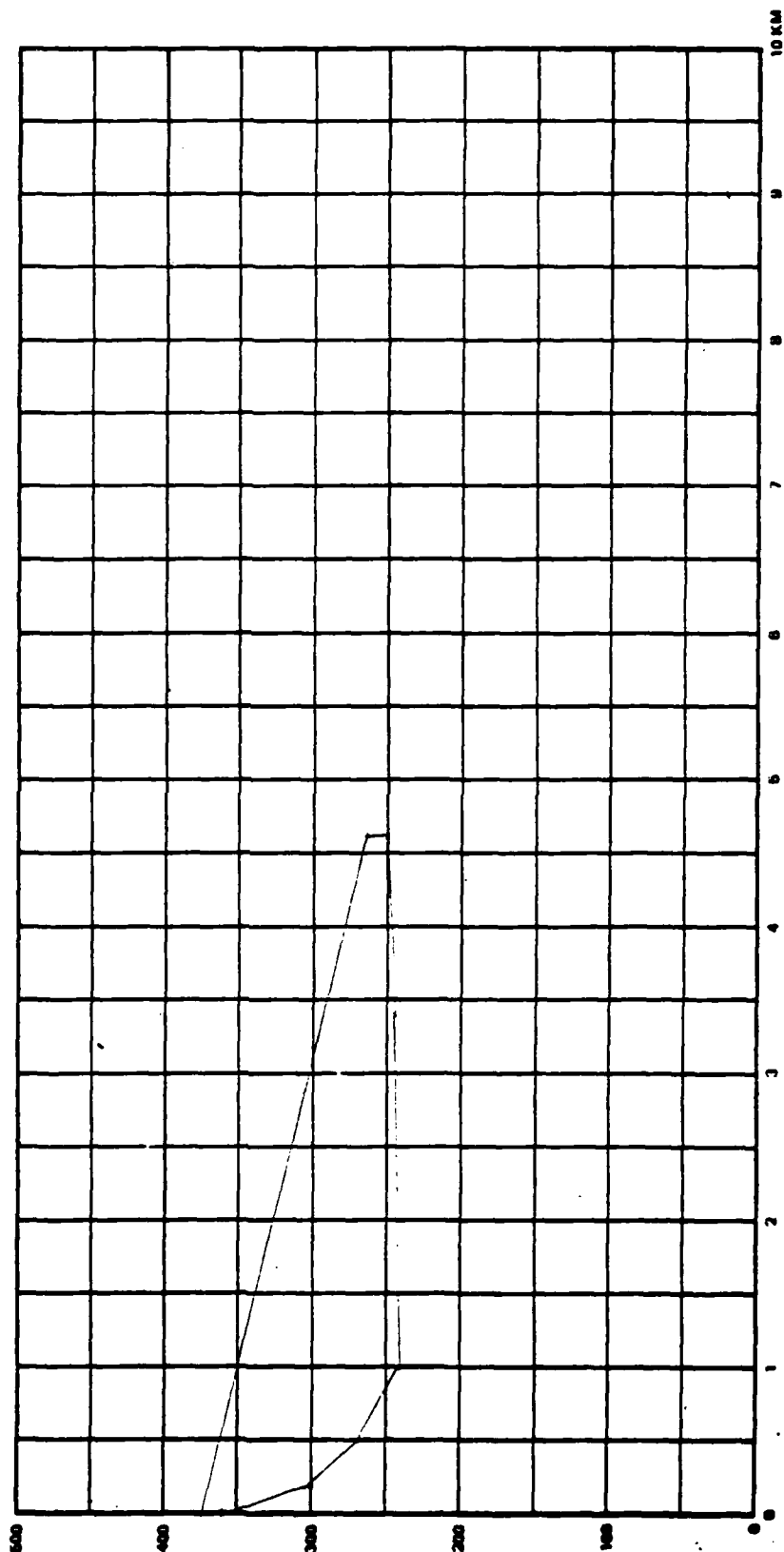
STATION Kaisers Lantern
 LATITUDE D 49 M 26 S 40
 LONGITUDE D 07 M 50 S 30
 ELEVATION 366 M
 TOWER HEIGHT 30 M

STATION Sembach
 LATITUDE D 49 M 31 S 46
 LONGITUDE D 07 M 52 S 07
 ELEVATION 351 M
 TOWER HEIGHT 34 M



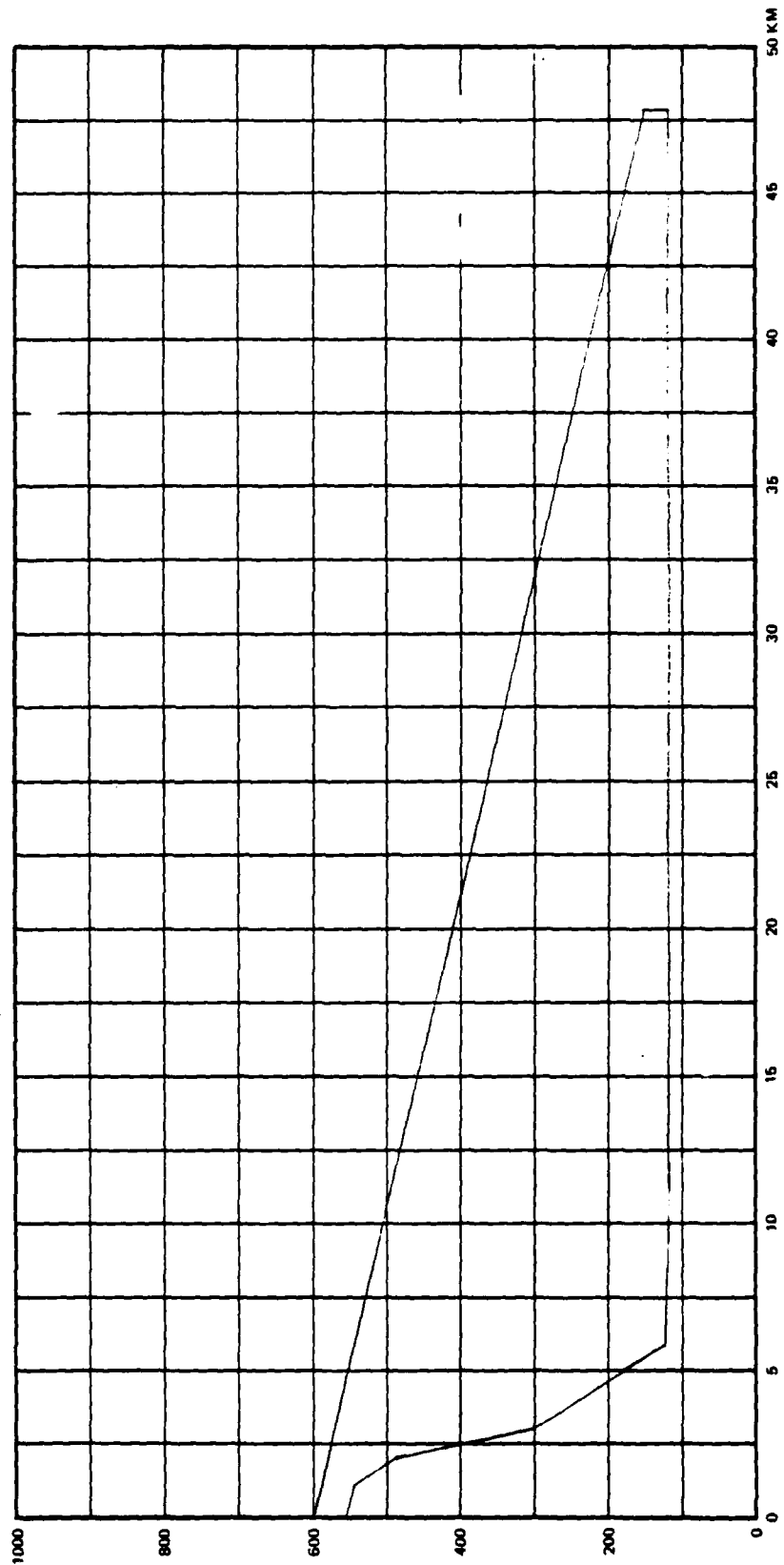
STATION Ramstein
 LATITUDE D 49 M 27 S 04
 LONGITUDE D 07 M 35 S 04
 ELEVATION 250 M
 TOWER HEIGHT 20 M

STATION Kindsbach
 LATITUDE D 49 M 24 S 48
 LONGITUDE D 07 M 36 S 52
 ELEVATION 360
 TOWER HEIGHT 20 M



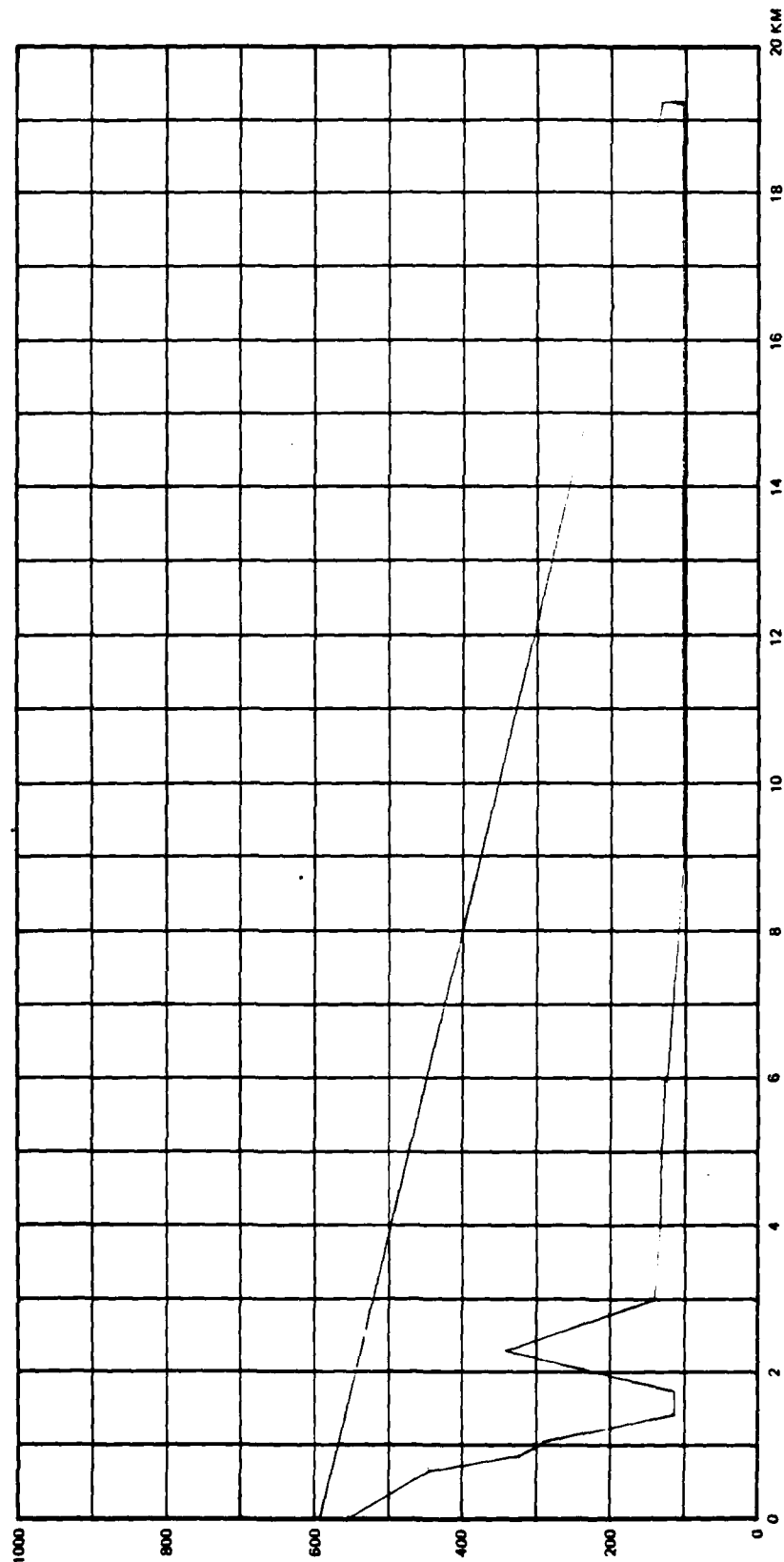
STATION Karlsruhe
 LATITUDE D 49 M 01 S 59
 LONGITUDE D 08 M 23 S 39
 ELEVATION 112 M
 TOWER HEIGHT 40 M

STATION Koenigstuhl
 LATITUDE D 49 M 24 S 11
 LONGITUDE D 08 M 44 S 02
 ELEVATION 560 M
 TOWER HEIGHT 40 M



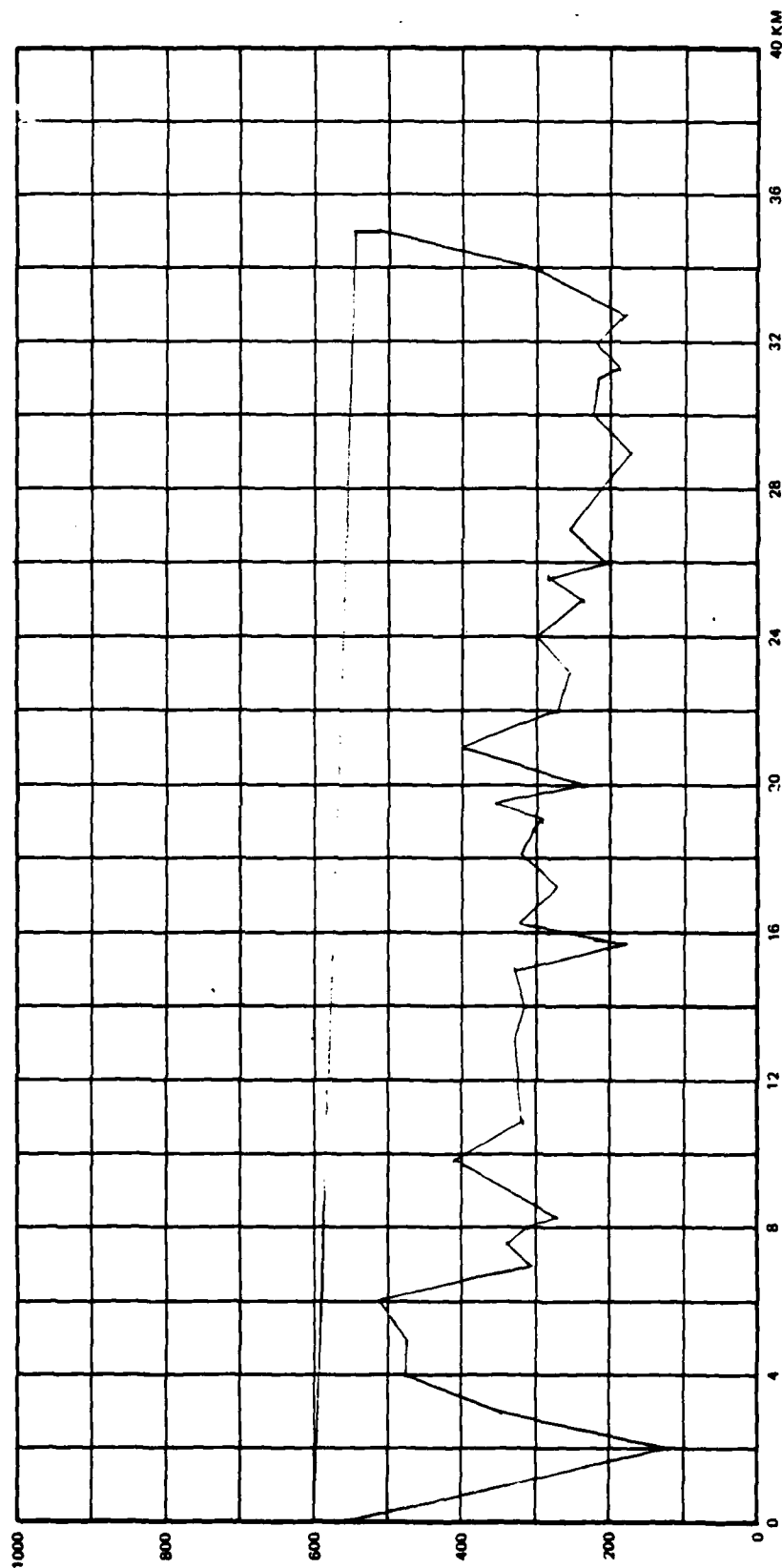
STATION Koenigstuhl
 LATITUDE D 49 M 24 S 11
 LONGITUDE D 08 M 44 S 02
 ELEVATION 560 M
 TOWER HEIGHT 30 M

STATION Mannheim
 LATITUDE D 49 M 30 S 59
 LONGITUDE D 08 M 31 S 48
 ELEVATION 97 M
 TOWER HEIGHT 30 M



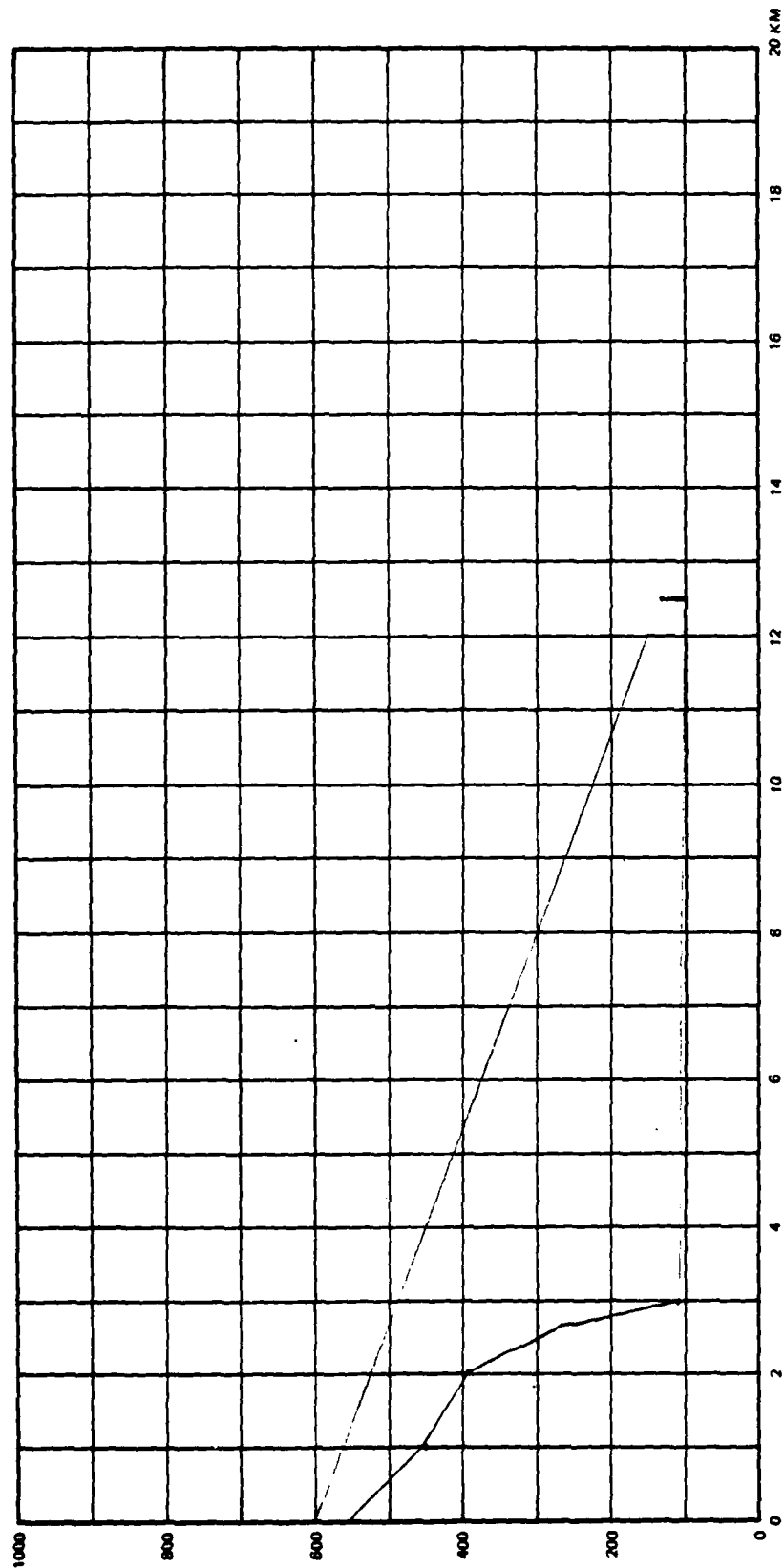
STATION Koenigstuhl
 LATITUDE D 49 M 24 S 11
 LONGITUDE D 08 M 44 S 02
 ELEVATION 560 M
 TOWER HEIGHT 40 M

STATION Melibocus
 LATITUDE D 49 M 43 S 32
 LONGITUDE D 08 M 38 S 17
 ELEVATION 516 M
 TOWER HEIGHT 30 M



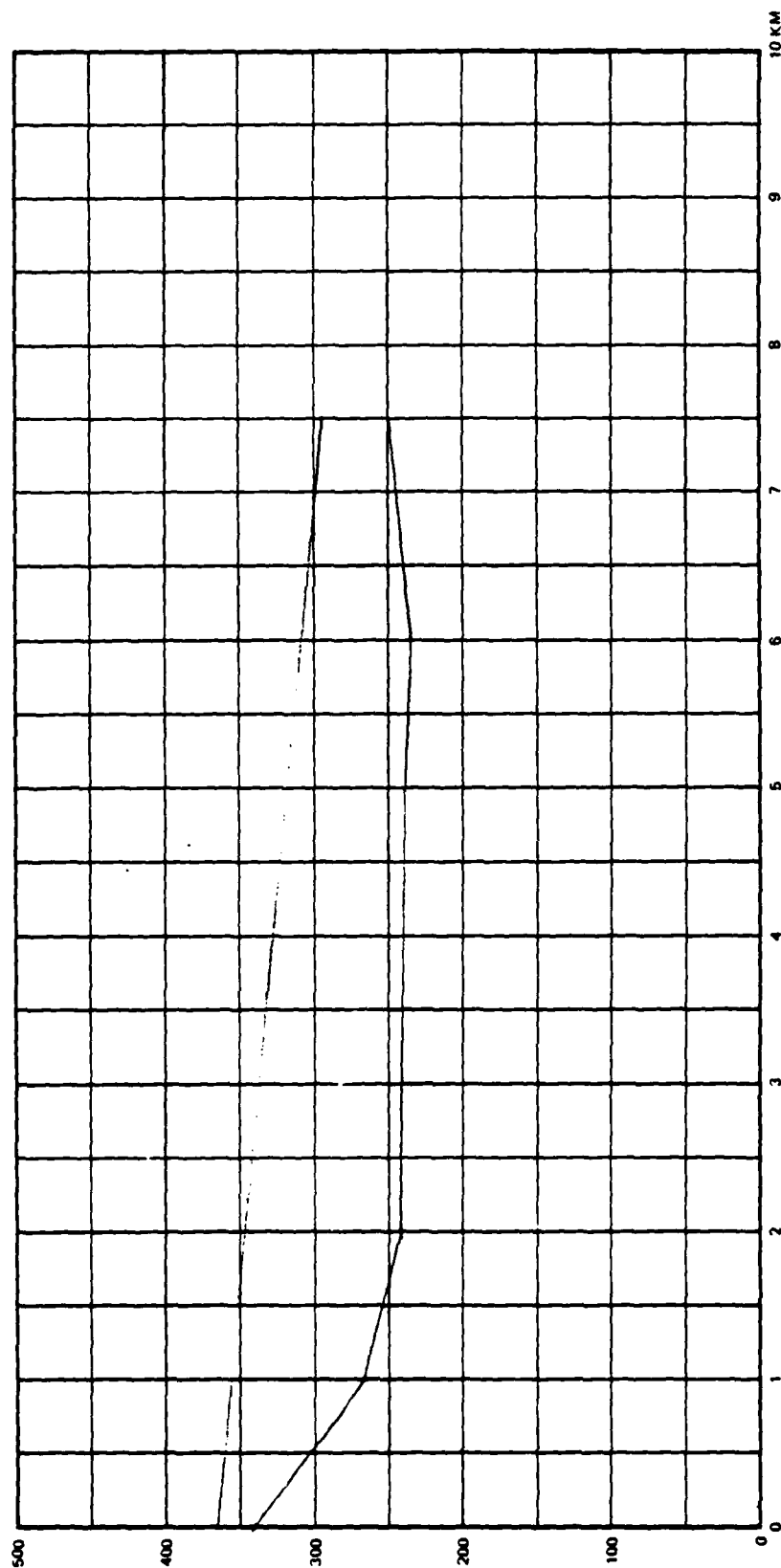
STATION Koenigstuhl
 LATITUDE D 49 M 24 S 11
 LONGITUDE D 08 M 44 S 02
 ELEVATION 560 M
 TOWER HEIGHT 40 M

STATION Schwetzingen
 LATITUDE D 49 M 24 S 31
 LONGITUDE D 08 M 33 S 40
 ELEVATION 100 M
 TOWER HEIGHT 40 M



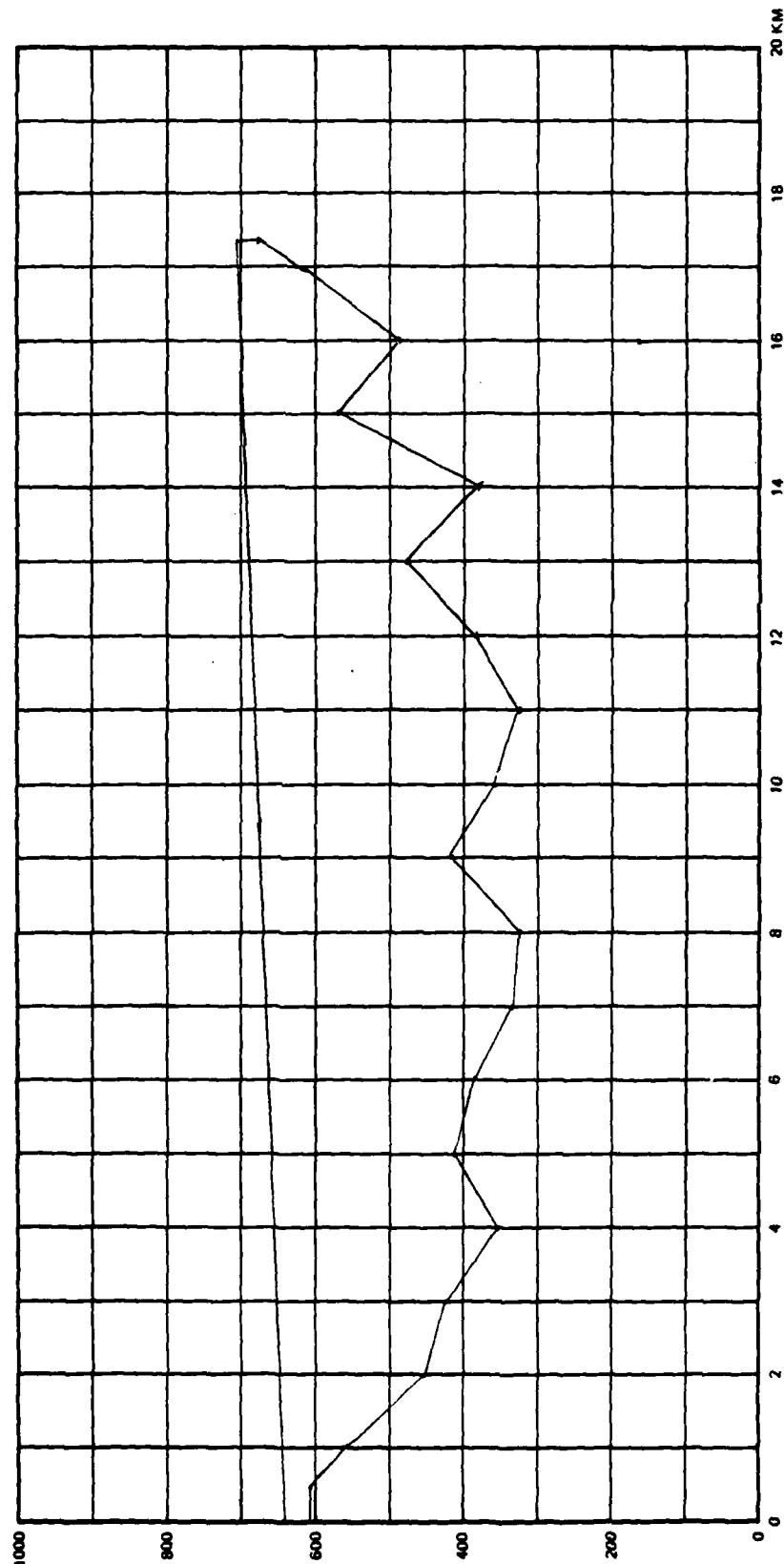
STATION Landstuhl
 LATITUDE D 49 M 24 S 00
 LONGITUDE D 07 M 32 S 04
 ELEVATION 341 M
 TOWER HEIGHT 27 M

STATION Ramstein
 LATITUDE D 49 M 27 S 04
 LONGITUDE D 07 M 35 S 04
 ELEVATION 250 M
 TOWER HEIGHT 40 M



1st repeater to
 STATION Heidelberg
 LATITUDE D 49 M 19 S 14
 LONGITUDE D 08 M 04 S 55
 ELEVATION 673 M
 TOWER HEIGHT 30 M

STATION Langerkopf
 LATITUDE D 49 M 18 S 04
 LONGITUDE D 07 M 50 S 39
 ELEVATION 608 M
 TOWER HEIGHT 30 M



1st repeater from

STATION Langerkopf

LATITUDE D 49 M 19 S 14

LONGITUDE D 08 M 04 S 55

ELEVATION 673 M

TOWER HEIGHT 30 M

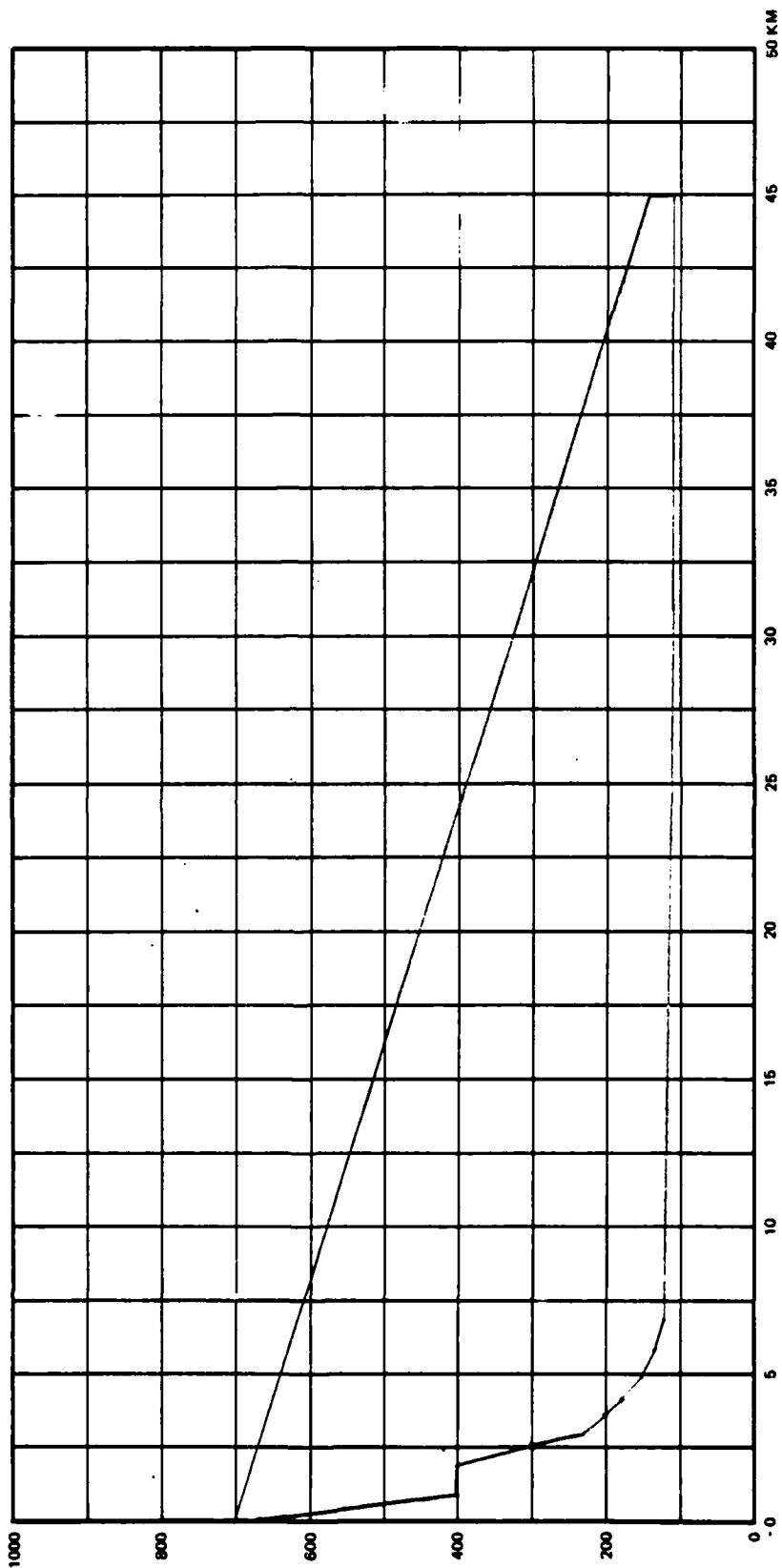
STATION Heidelberg

LATITUDE D 49 M 23 S 12

LONGITUDE D 08 M 41 S 00

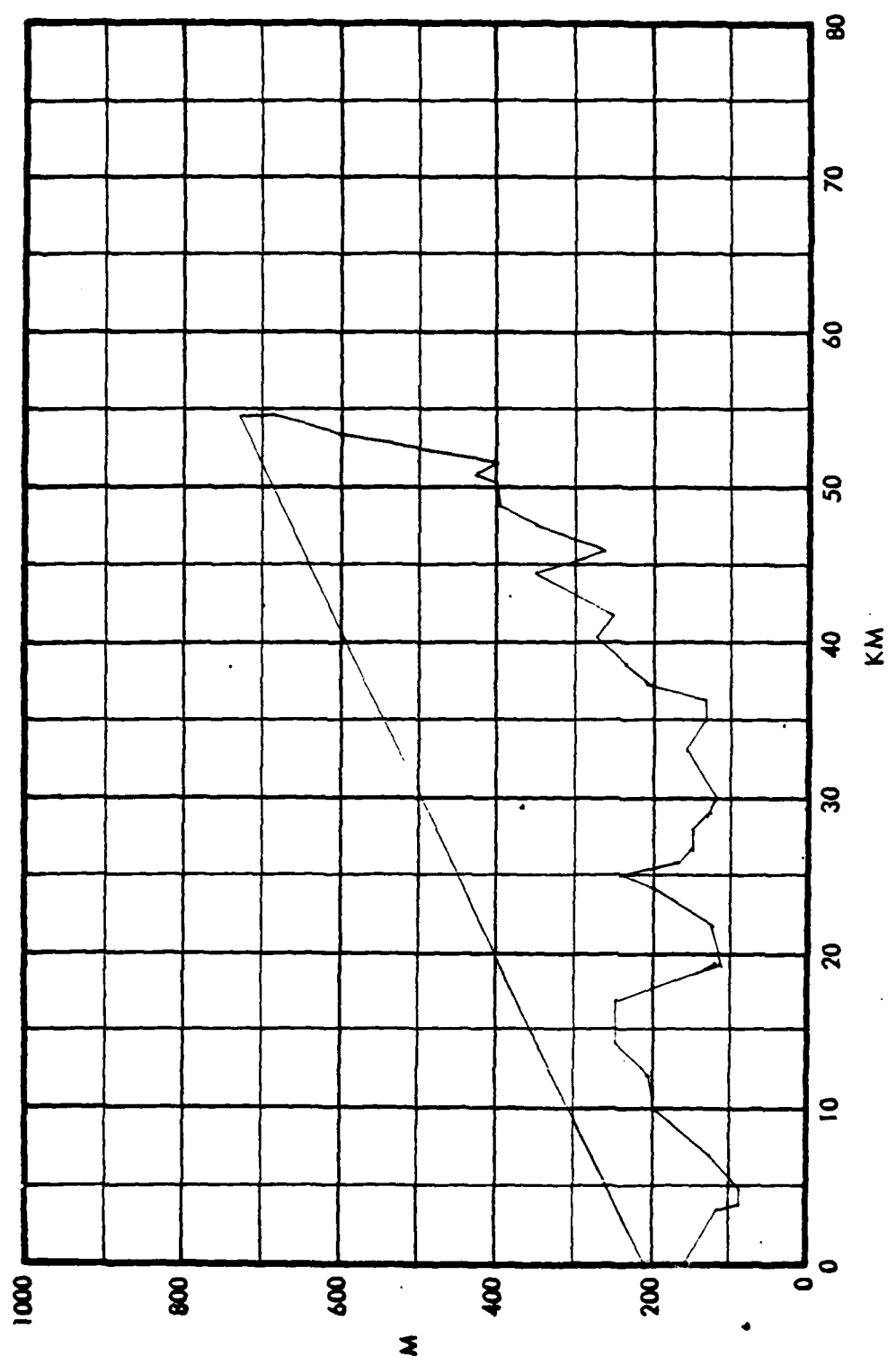
ELEVATION 111 M

TOWER HEIGHT 30 M



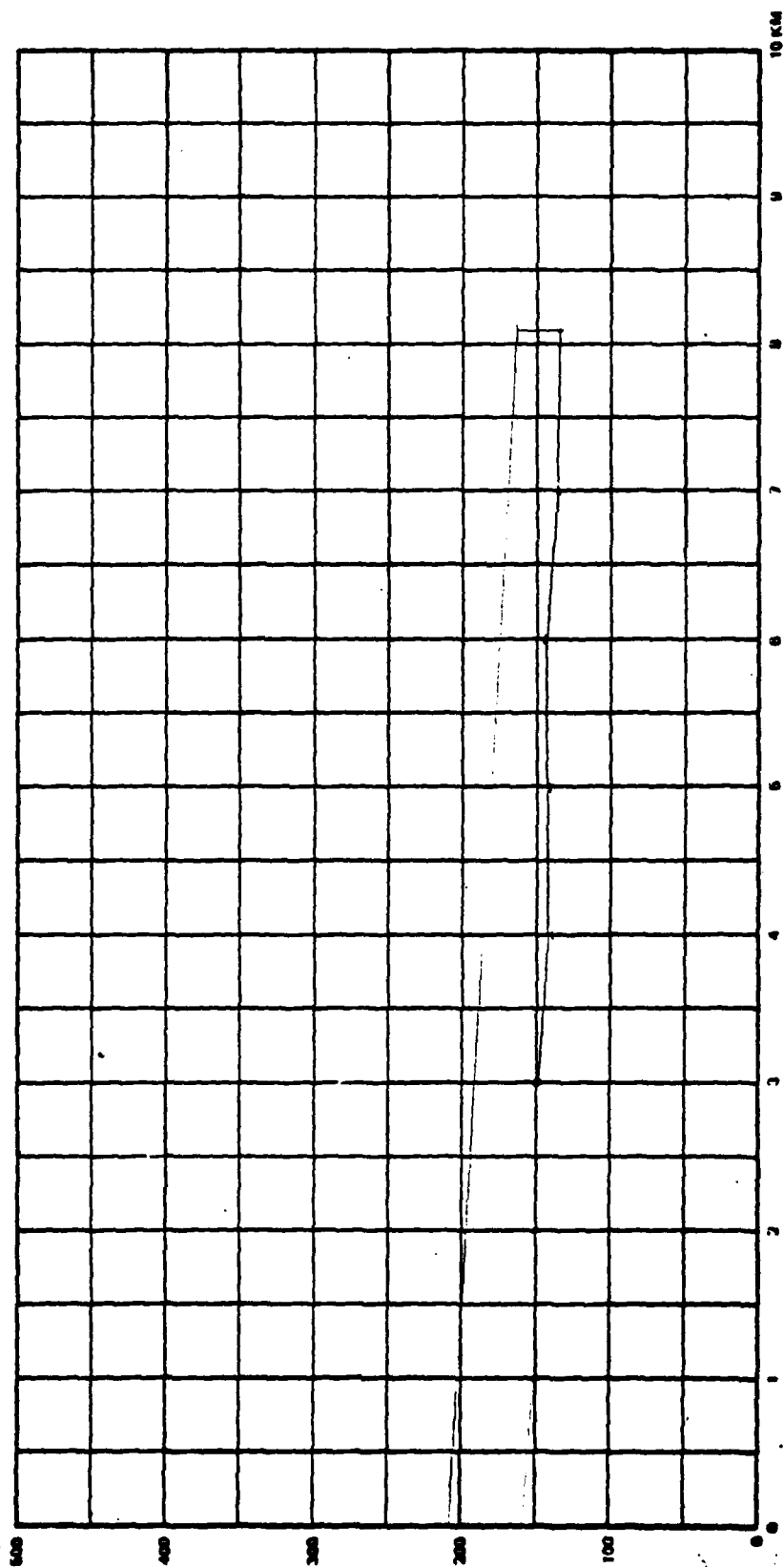
STATION Lindsey
 LATITUDE D 50 M 04 S 17
 LONGITUDE D 08 M 13 S 24
 ELEVATION 160 M
 TOWER HEIGHT 50 M

STATION Donnersberg
 LATITUDE D 49 M 37 S 23
 LONGITUDE D 07 M 55 S 13
 ELEVATION 685 M
 TOWER HEIGHT 40 M



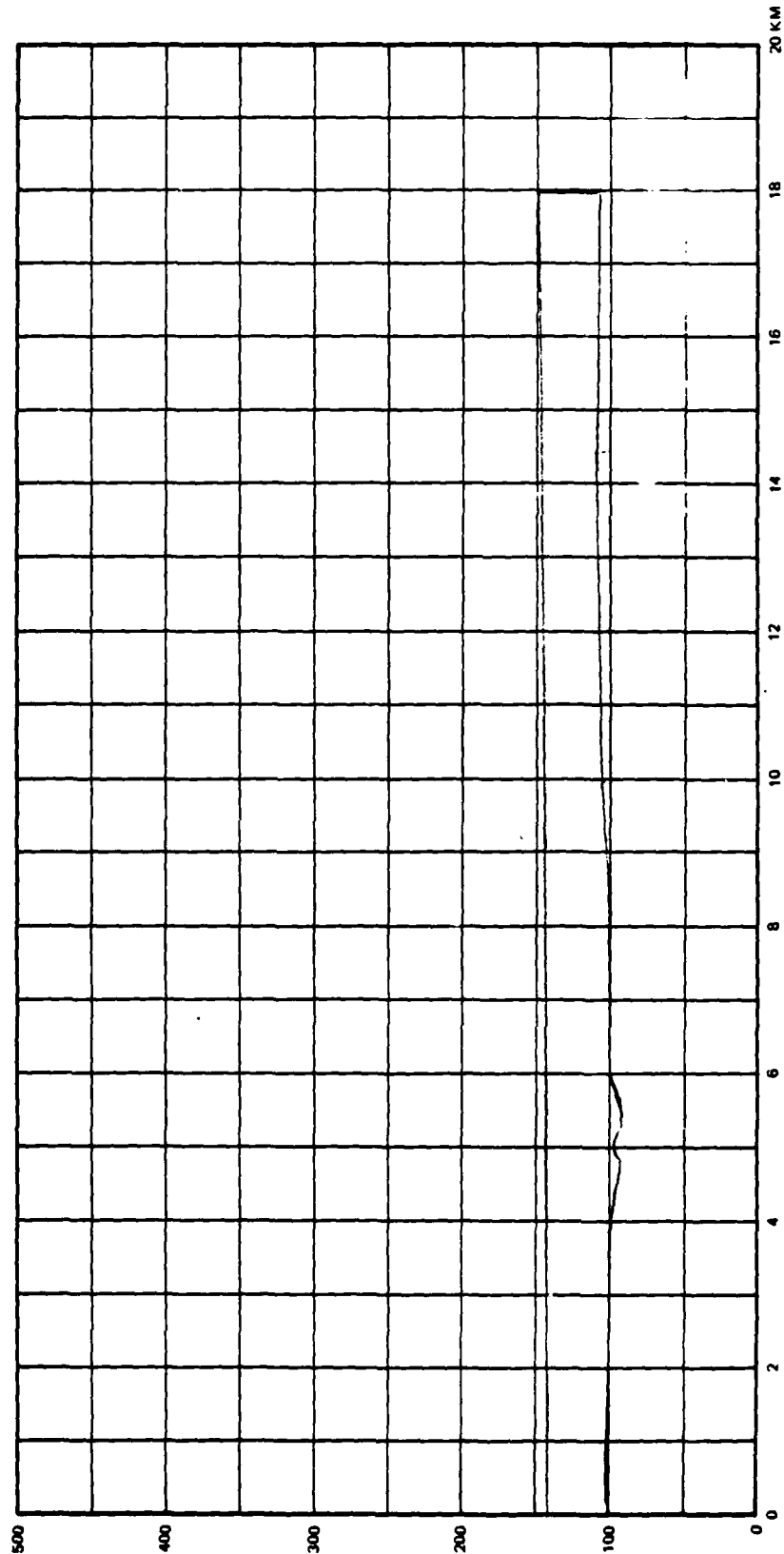
STATION Lindsey
 LATITUDE D 50 M 04 S 17
 LONGITUDE D 08 M 13 S 24
 ELEVATION 160 M
 TOWER HEIGHT 50 M

STATION Wiesbaden
 LATITUDE D 50 M 02 S 30
 LONGITUDE D 08 M 19 S 35
 ELEVATION 137 M
 TOWER HEIGHT 30 M



STATION Mannheim
 LATITUDE D 49 M 30 S 59
 LONGITUDE D 08 M 31 S 48
 ELEVATION 100 M
 TOWER HEIGHT 40 M

STATION Heidelberg
 LATITUDE D 49 M 23 S 12
 LONGITUDE D 08 M 41 S 00
 ELEVATION 111 M
 TOWER HEIGHT 40 M

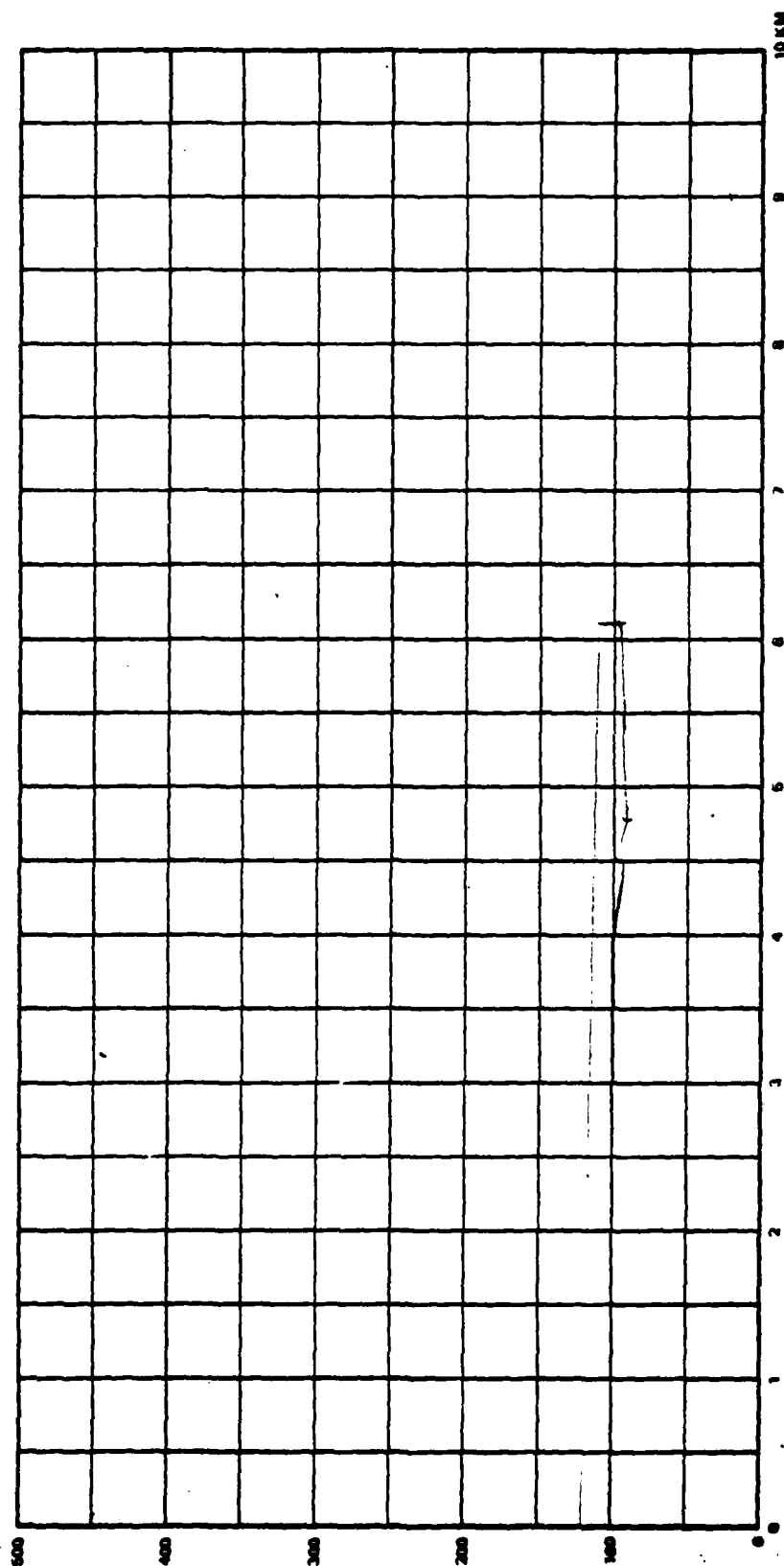


STATION Mannheim

LATITUDE D 49 M 30 S 59
 LONGITUDE D 08 M 31 S 48
 ELEVATION 100 M
 TOWER HEIGHT 20 M

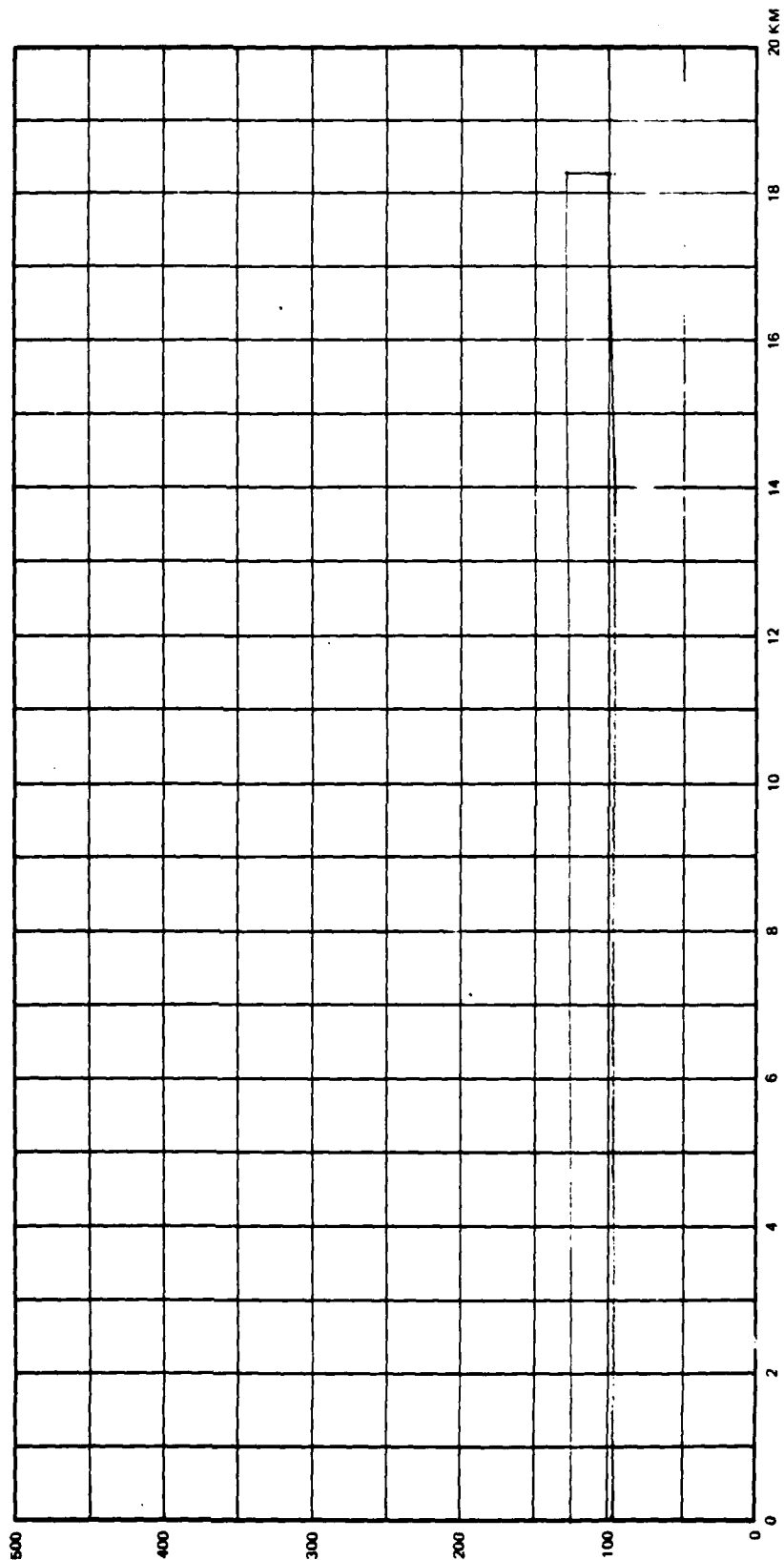
STATION Seckenheim

LATITUDE D 49 M 28 S 00
 LONGITUDE D 08 M 34 S 00
 ELEVATION 95 M
 TOWER HEIGHT 20 M



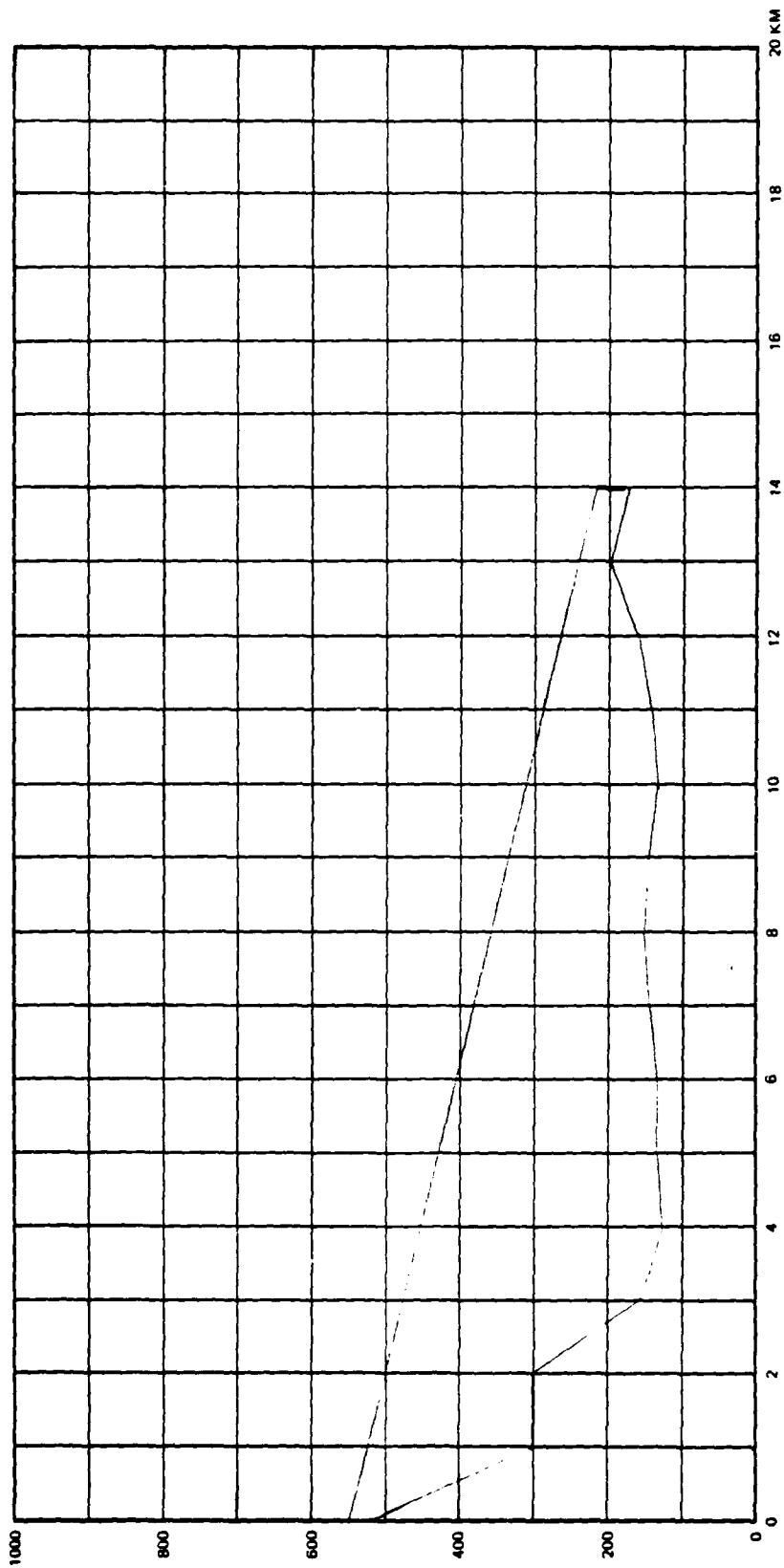
STATION Mannheim
 LATITUDE D 49 M 30 S 59
 LONGITUDE D 08 M 31 S 48
 ELEVATION 97 M
 TOWER HEIGHT 30 M

STATION Worms
 LATITUDE D 49 M 38 S 28
 LONGITUDE D 08 M 21 S 40
 ELEVATION 101 M
 TOWER HEIGHT 30 M



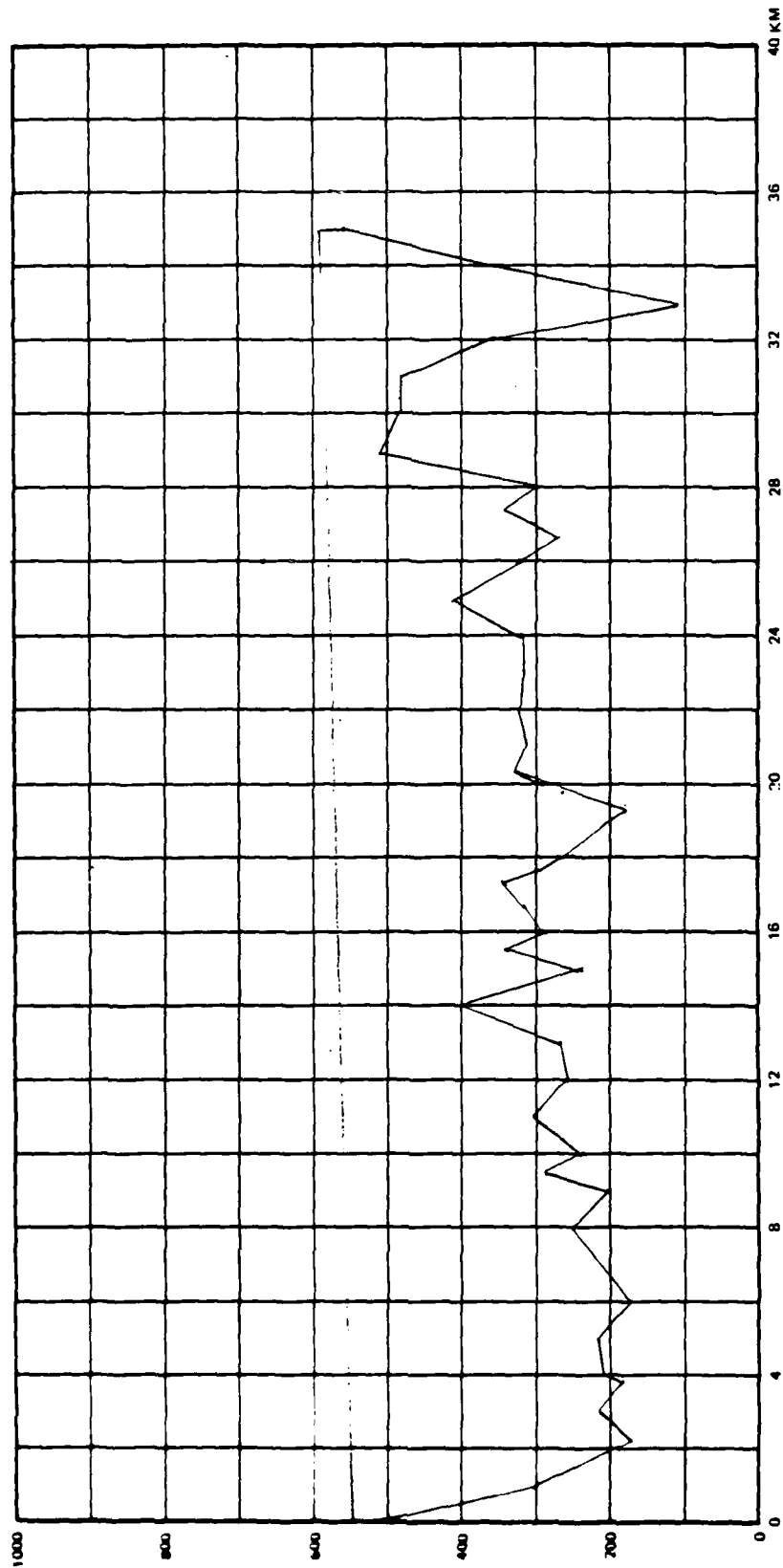
STATION Darmstadt
 LATITUDE D 49 M 50 S 55
 LONGITUDE D 08 M 39 S 19
 ELEVATION 170 M
 TOWER HEIGHT 50 M

STATION Melibocus
 LATITUDE D 49 M 43 S 32
 LONGITUDE D 08 M 38 S 17
 ELEVATION 516 M
 TOWER HEIGHT 30 M



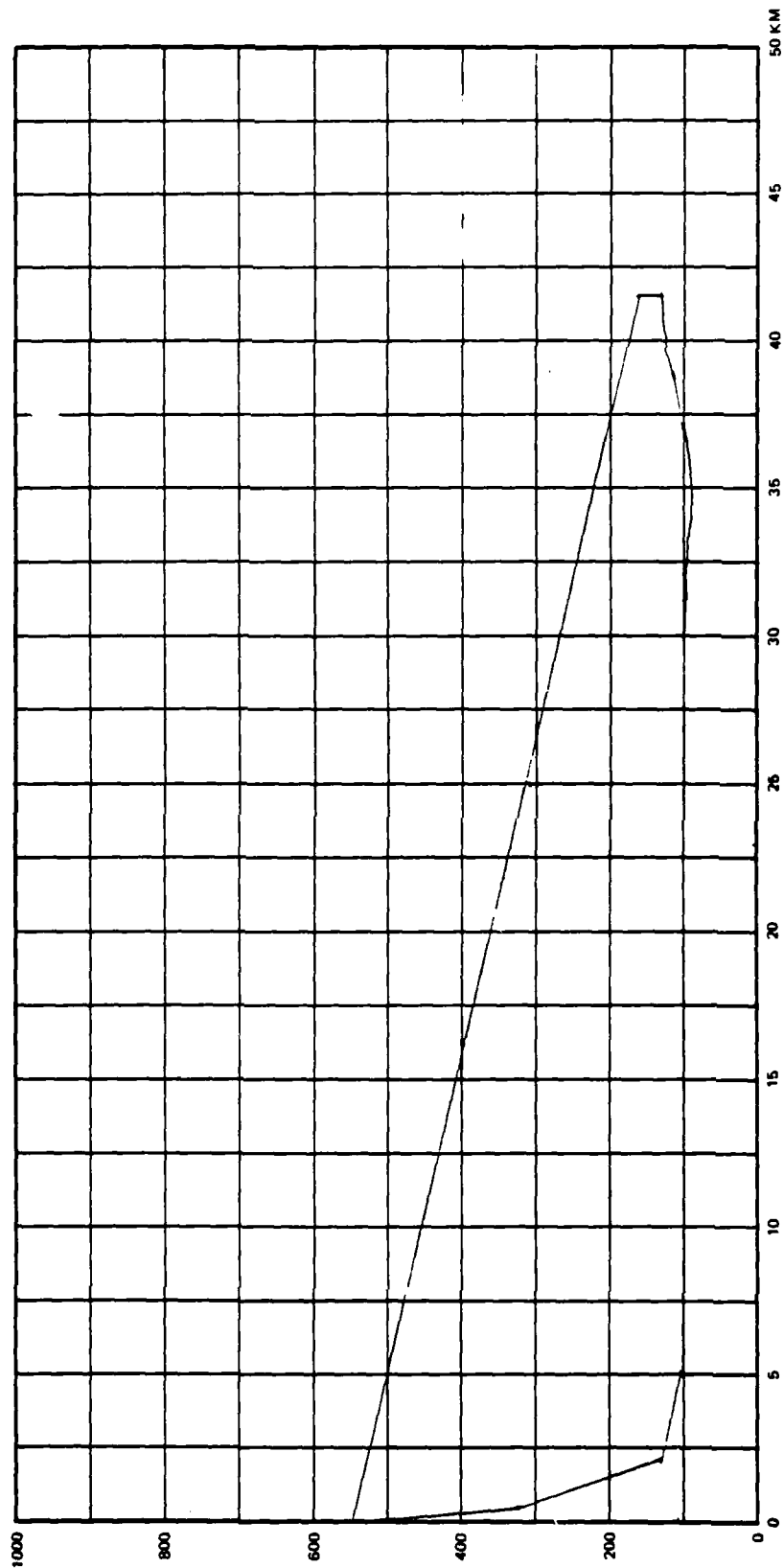
STATION Koenigstuhl
 LATITUDE D 49 M 24 S 11
 LONGITUDE D 08 M 44 S 02
 ELEVATION 560 M
 TOWER HEIGHT 30 M

STATION Melibocus
 LATITUDE D 49 M 43 S 32
 LONGITUDE D 08 M 38 S 17
 ELEVATION 516 M
 TOWER HEIGHT 30 M



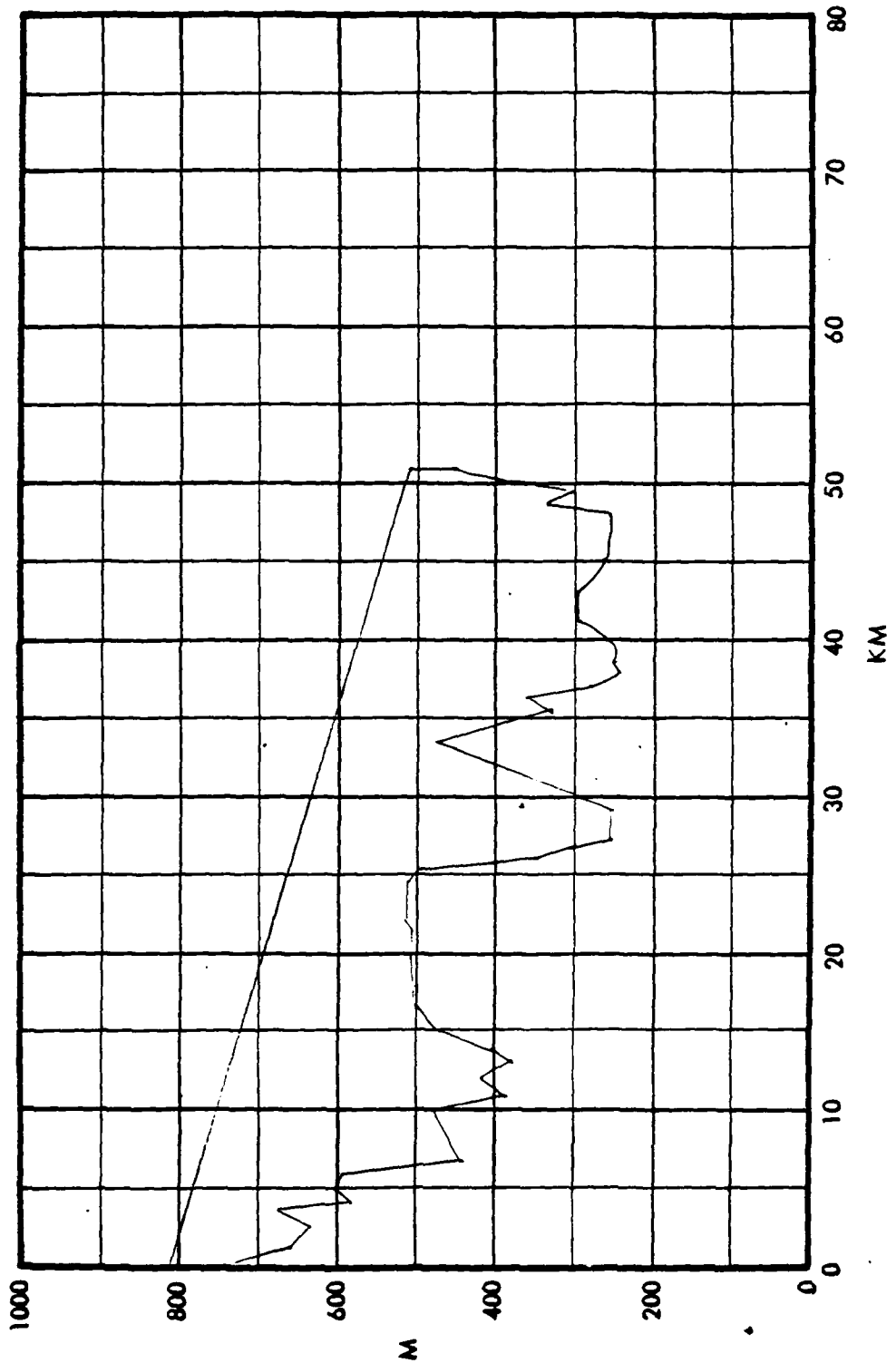
STATION Wiesbaden
 LATITUDE D 50 M 02 S 30
 LONGITUDE D 08 M 19 S 35
 ELEVATION 137 M
 TOWER HEIGHT 40 M

STATION Melibocus
 LATITUDE D 49 M 43 S 32
 LONGITUDE D 08 M 38 S 17
 ELEVATION 516 M
 TOWER HEIGHT 40 M



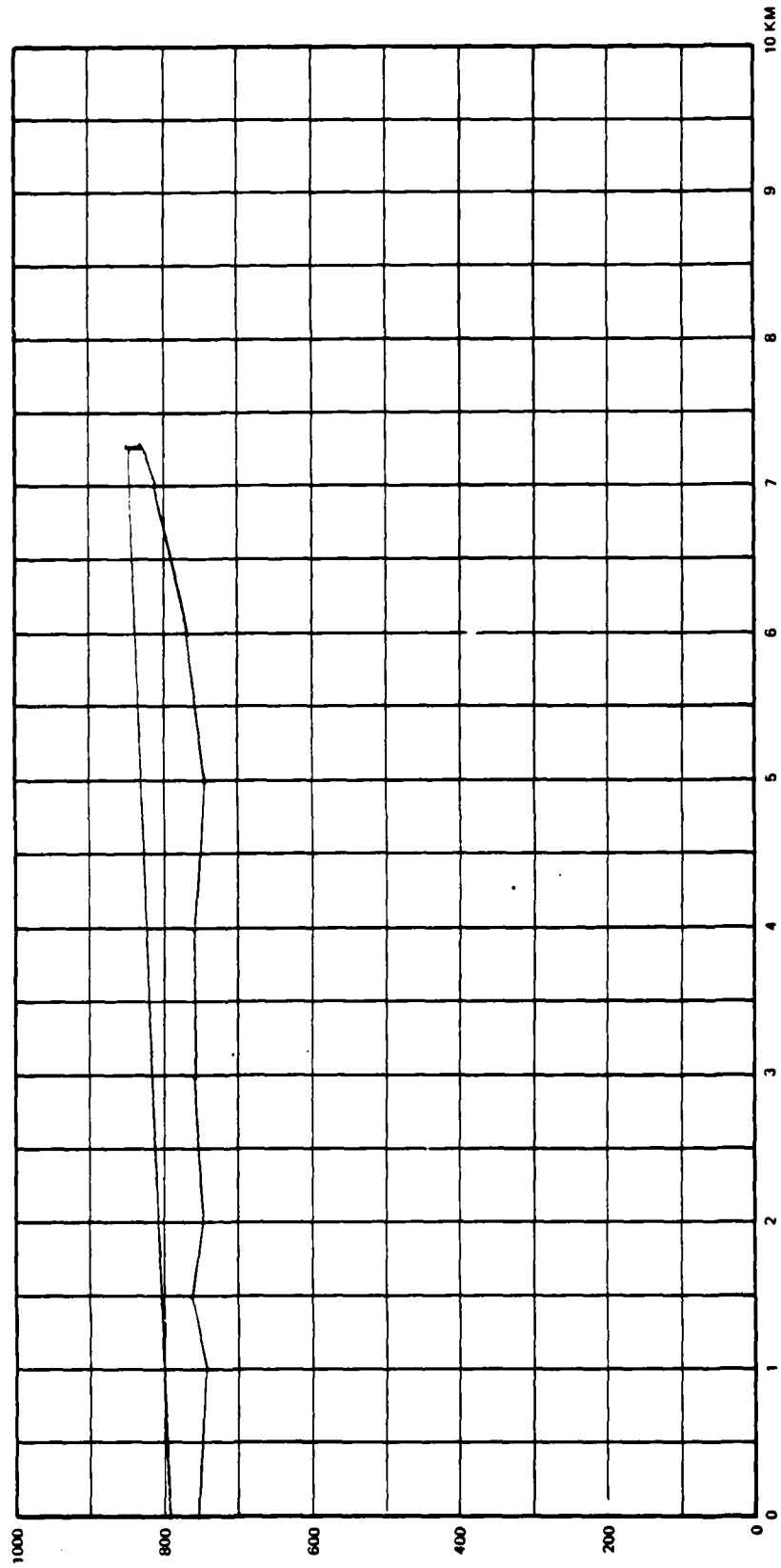
STATION Muhl
 LATITUDE D 49 M 40 S 45
 LONGITUDE D 07 M 01 S 40
 ELEVATION 750 M
 TOWER HEIGHT 50 M

STATION Bann
 LATITUDE D 49 M 23 S 55
 LONGITUDE D 07 M 35 S 18
 ELEVATION 460 M
 TOWER HEIGHT 50 M



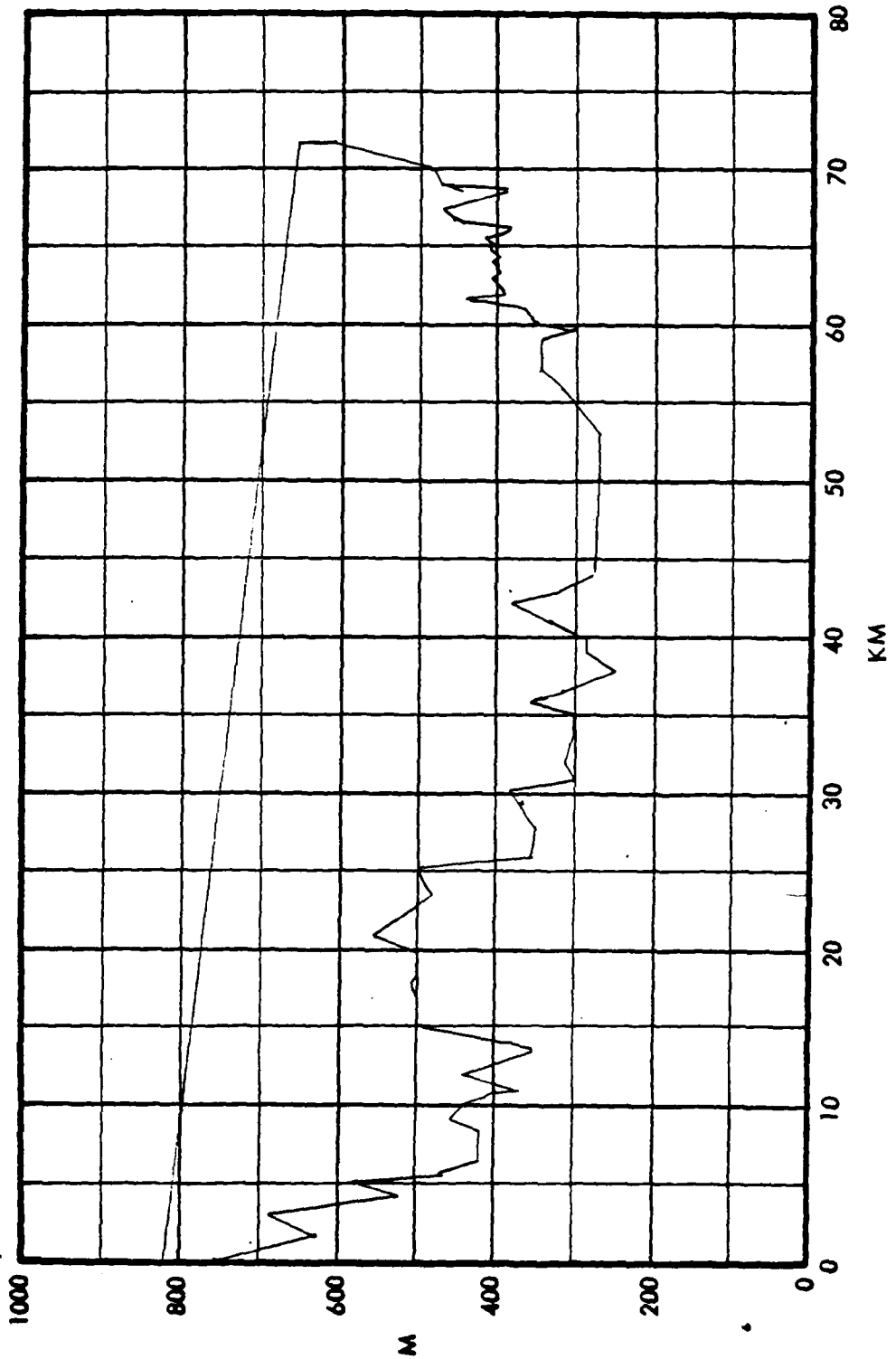
STATION Muh1
 LATITUDE D 49 M 40 S 45
 LONGITUDE D 07 M 01 S 40
 ELEVATION 756 M
 TOWER HEIGHT 30 M

STATION Boerfink
 LATITUDE D 49 M 43 S 53
 LONGITUDE D 07 M 05 S 00
 ELEVATION 818 M
 TOWER HEIGHT 25 M



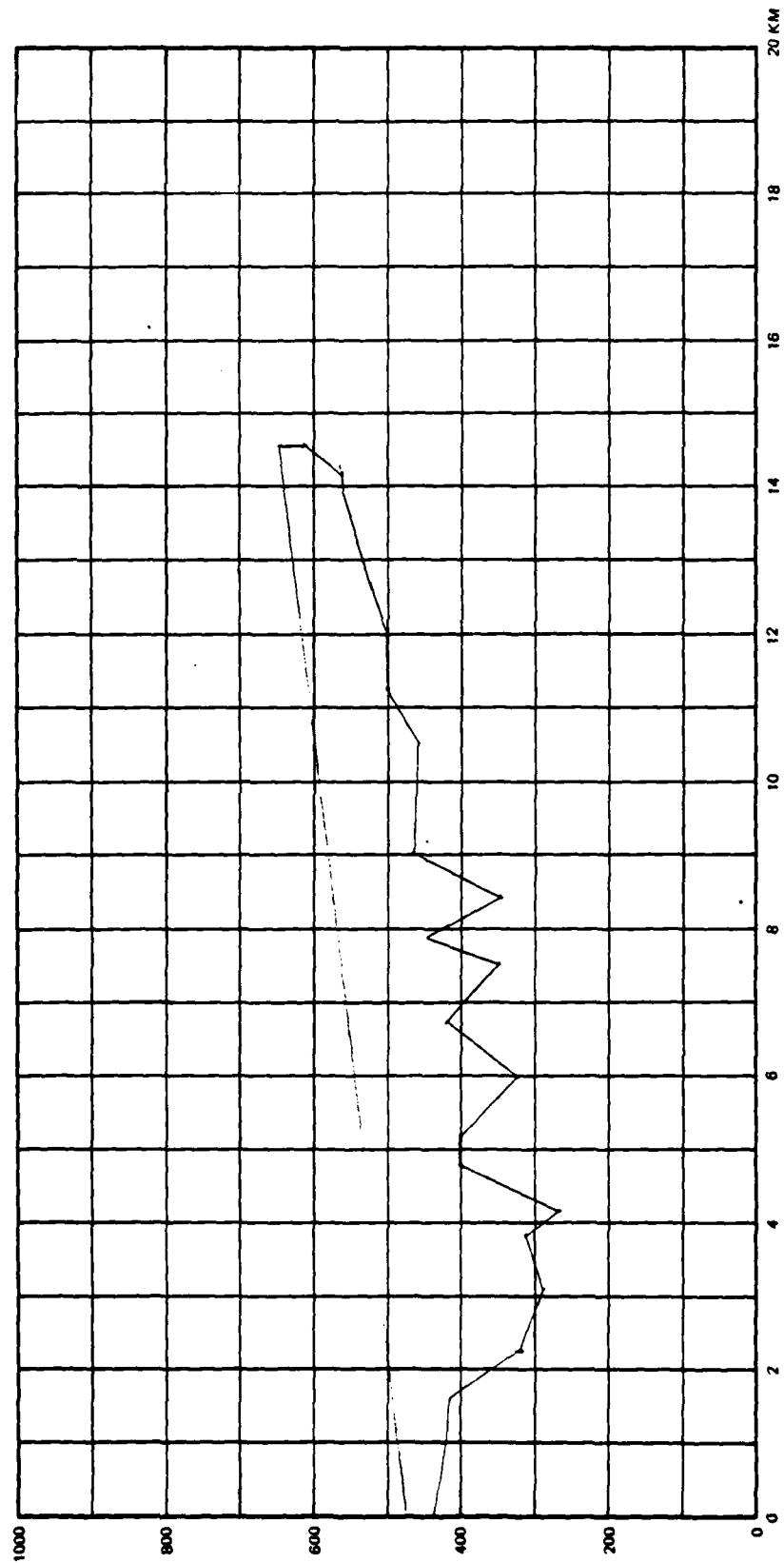
STATION Muhl
 LATITUDE D 49 M 40 S 45
 LONGITUDE D 07 M 01 S 40
 ELEVATION 756 M
 TOWER HEIGHT 60 M

STATION Langerkopf
 LATITUDE D 49 M 18 S 04
 LONGITUDE D 07 M 50 S 39
 ELEVATION 608 M
 TOWER HEIGHT 60 M



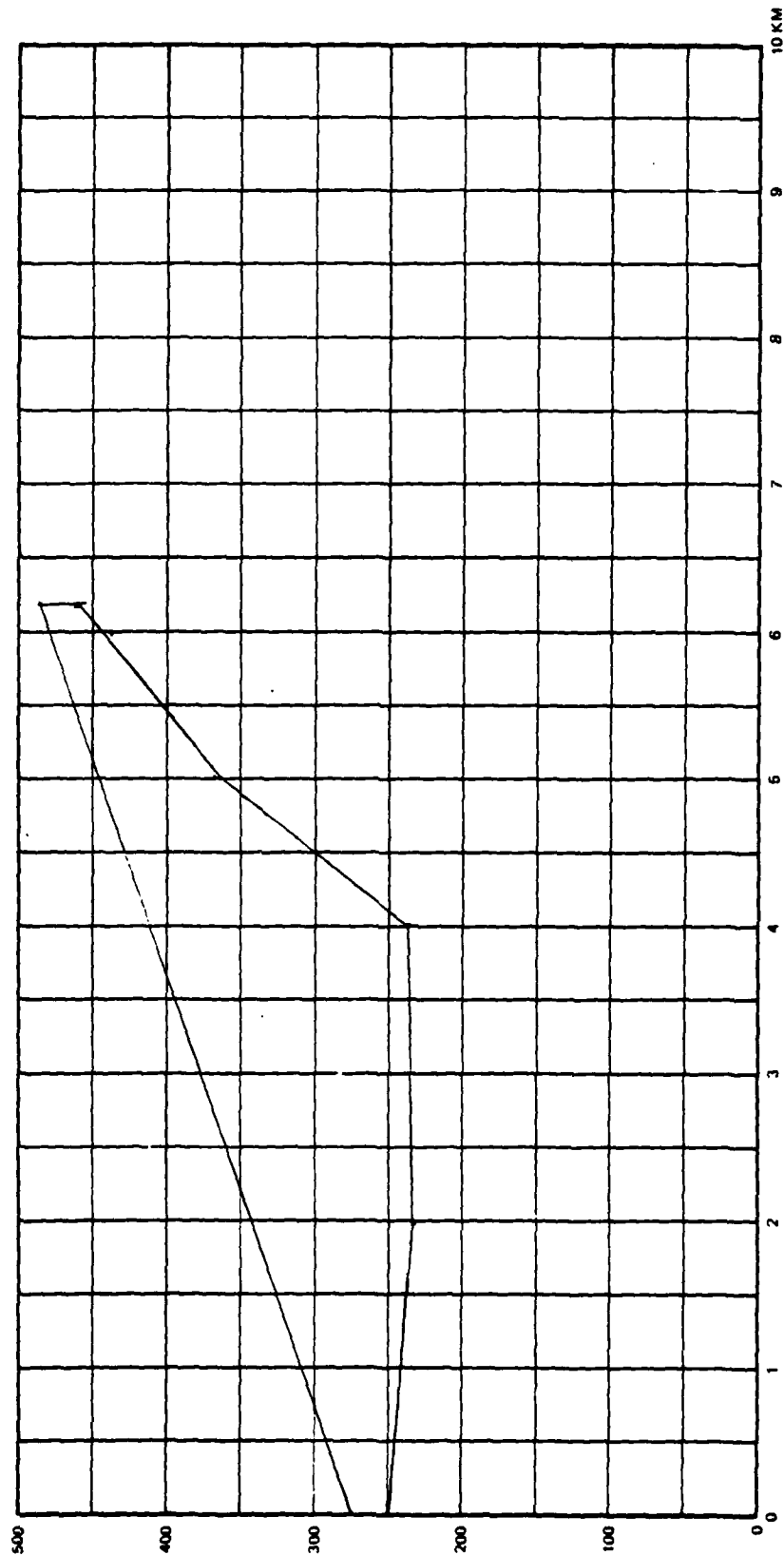
STATION Pirmasens
 LATITUDE D 49 M 13 S 01
 LONGITUDE D 07 M 36 S 35
 ELEVATION 439 M
 TOWER HEIGHT 30 M

STATION Langerkopf
 LATITUDE D 49 M 18 S 04
 LONGITUDE D 07 M 50 S 39
 ELEVATION 608 M
 TOWER HEIGHT 30 M



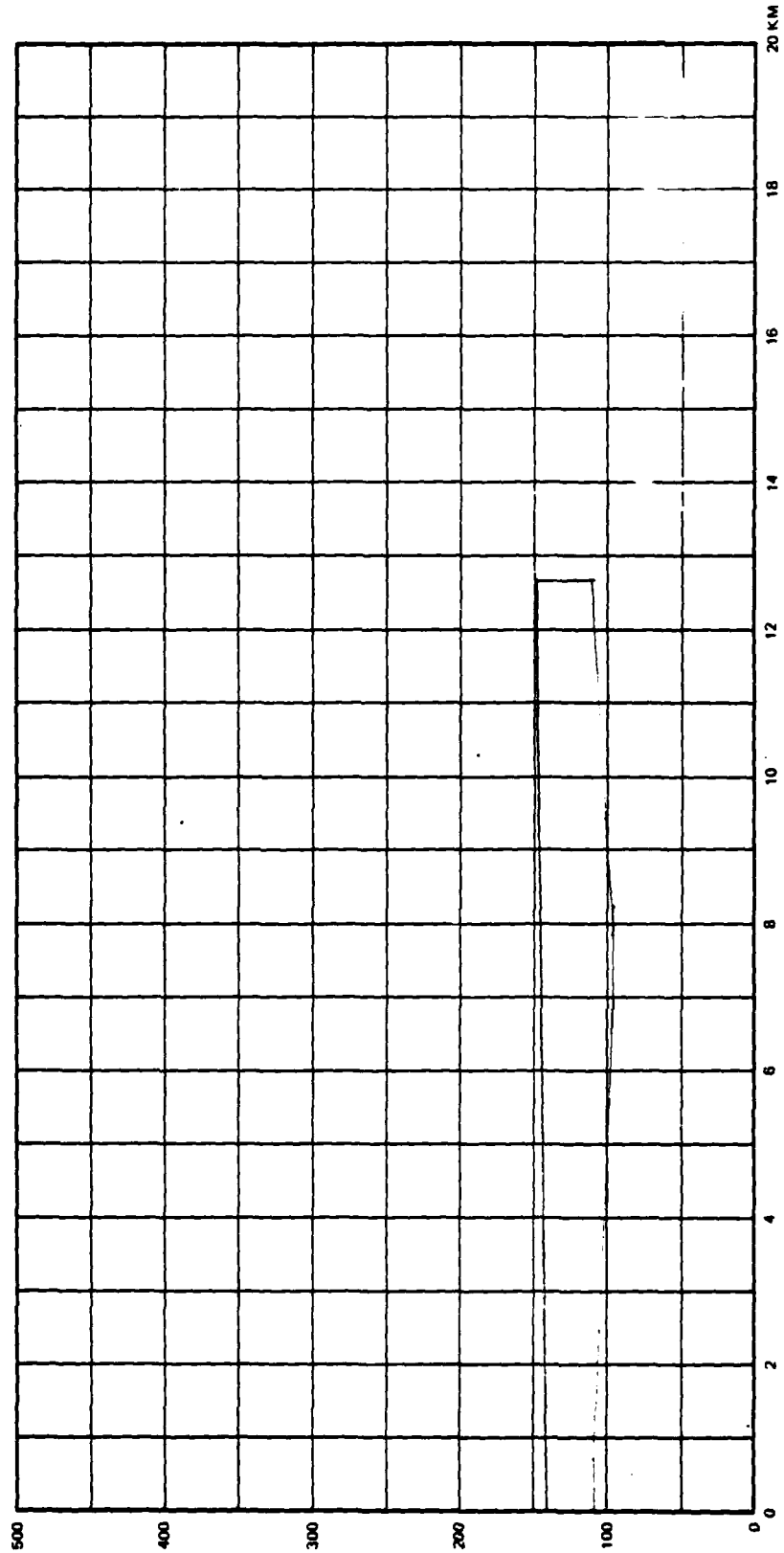
STATION Ramstein
 LATITUDE D 49 M 27 S 04
 LONGITUDE D 07 M 35 S 04
 ELEVATION 250 M
 TOWER HEIGHT 25 M

STATION Bann
 LATITUDE D 49 M 23 S 55
 LONGITUDE D 07 M 35 S 18
 ELEVATION 460 M
 TOWER HEIGHT 25 M



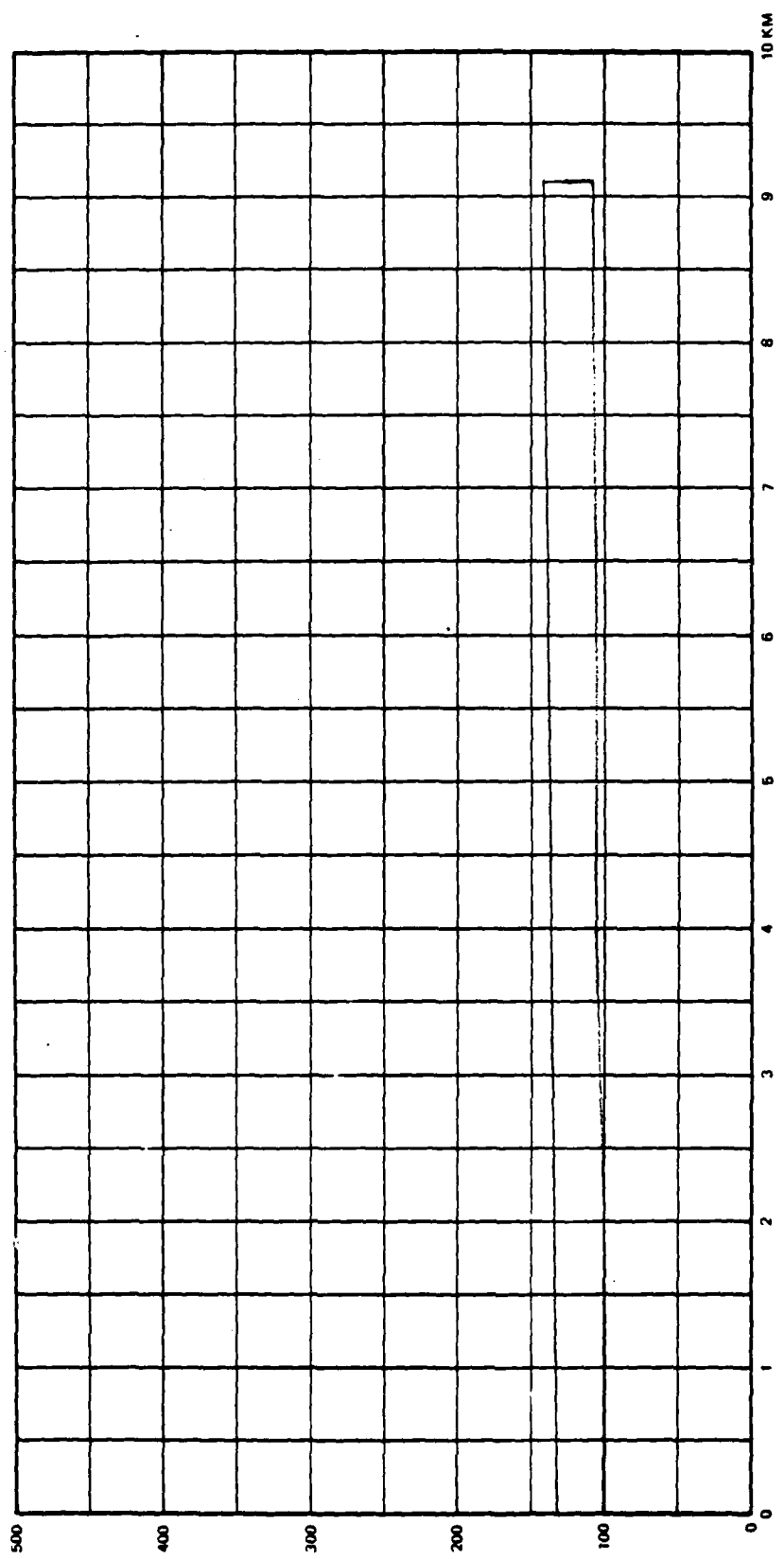
STATION Rheine Main
 LATITUDE D 50 M 01 S 51
 LONGITUDE D 08 M 34 S 55
 ELEVATION 108 M
 TOWER HEIGHT 30 M

STATION Frankfurt
 LATITUDE D 50 M 07 S 41
 LONGITUDE D 08 M 40 S 15
 ELEVATION 119 M
 TOWER HEIGHT 30 M



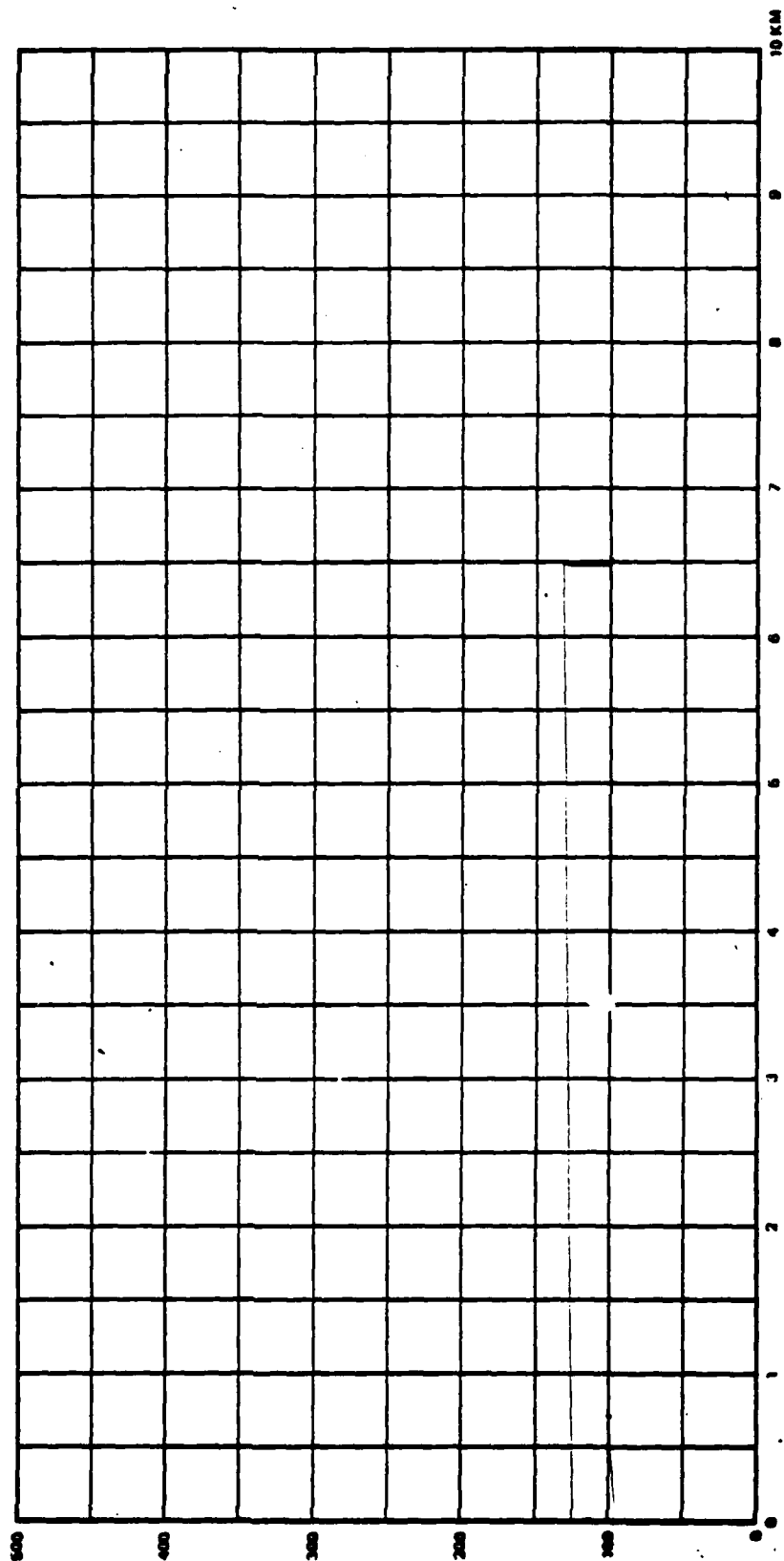
STATION Schwetzingen
 LATITUDE D 49 M 24 S 31
 LONGITUDE D 08 M 33 S 40
 ELEVATION 100 M
 TOWER HEIGHT 30 M

STATION Heidelberg
 LATITUDE D 49 M 23 S 12
 LONGITUDE D 08 M 41 S 00
 ELEVATION 111 M
 TOWER HEIGHT 30 M



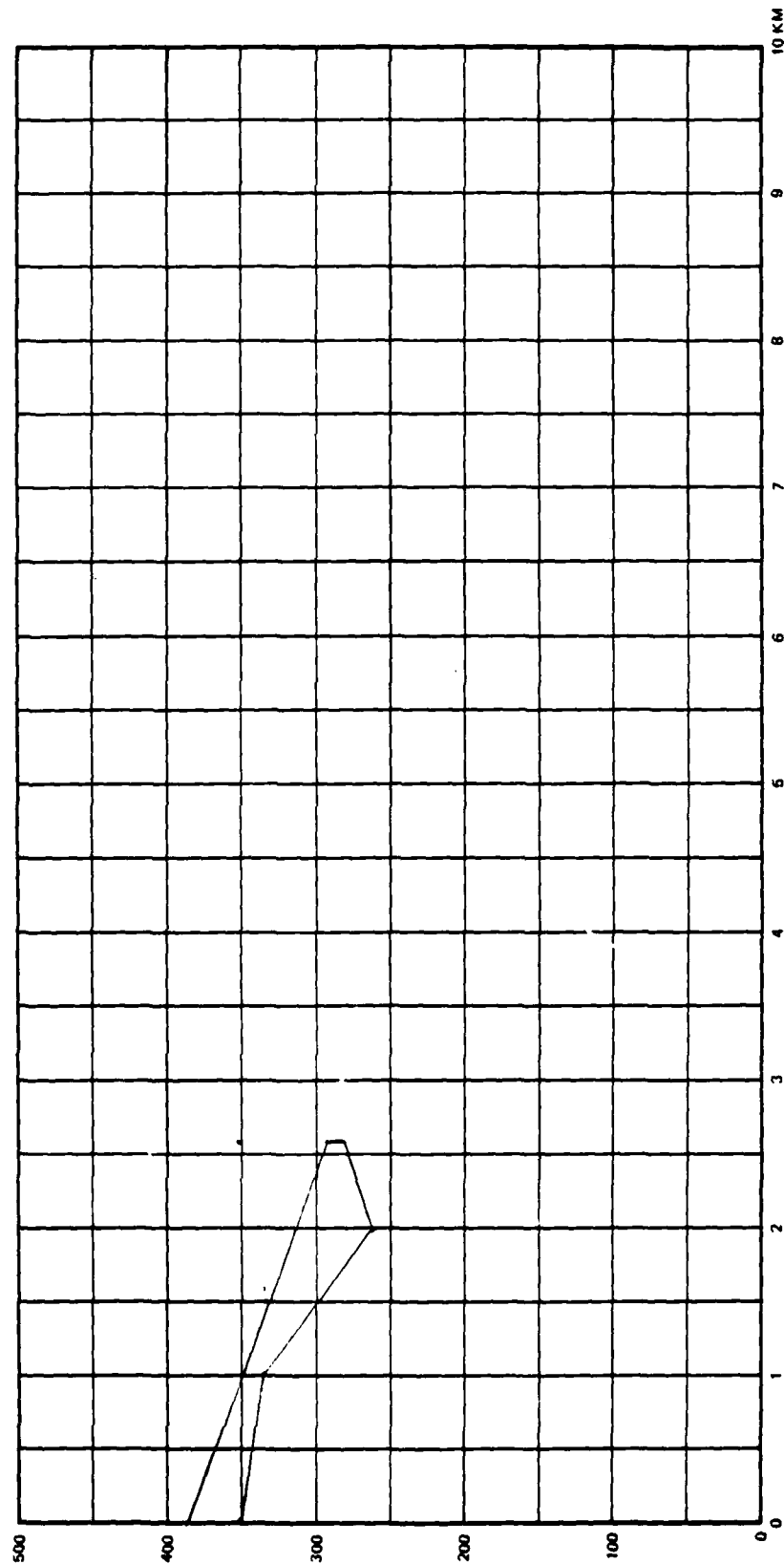
STATION Seckenheim
 LATITUDE D 49 M 28 S 00
 LONGITUDE D 08 M 34 S 00
 ELEVATION 95 M
 TOWER HEIGHT 30 M

STATION Schwetzingen
 LATITUDE D 49 M 24 S 31
 LONGITUDE D 08 M 33 S 40
 ELEVATION 100 M
 TOWER HEIGHT 30 M



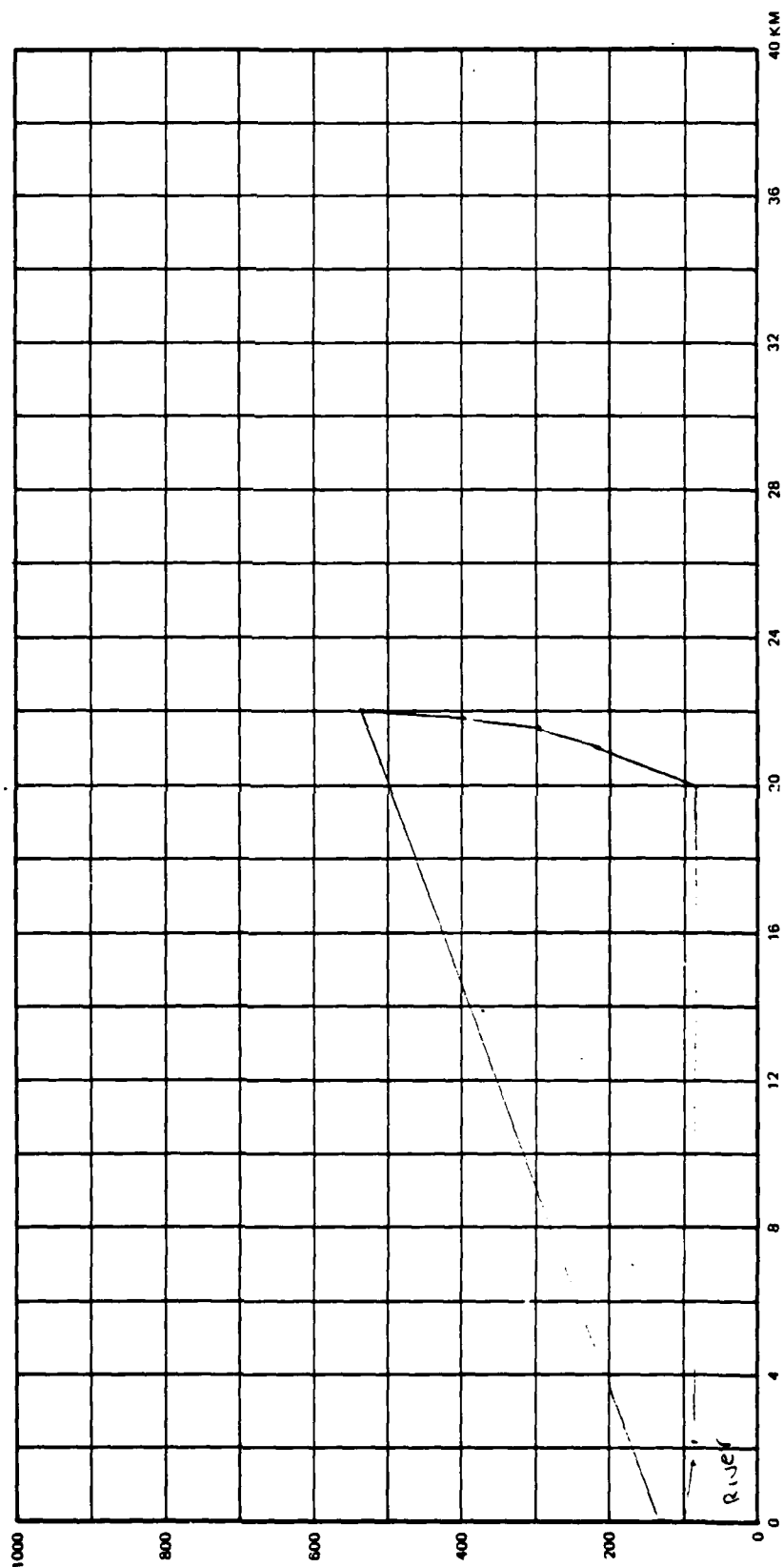
STATION Senbach
 LATITUDE D 49 M 31 S 46
 LONGITUDE D 07 M 52 S 07
 ELEVATION 351 M
 TOWER HEIGHT 26 M

STATION Lohnsfeld
 LATITUDE D 49 M 33 S 00
 LONGITUDE D 07 M 51 S 10
 ELEVATION 271 M
 TOWER HEIGHT 21 M



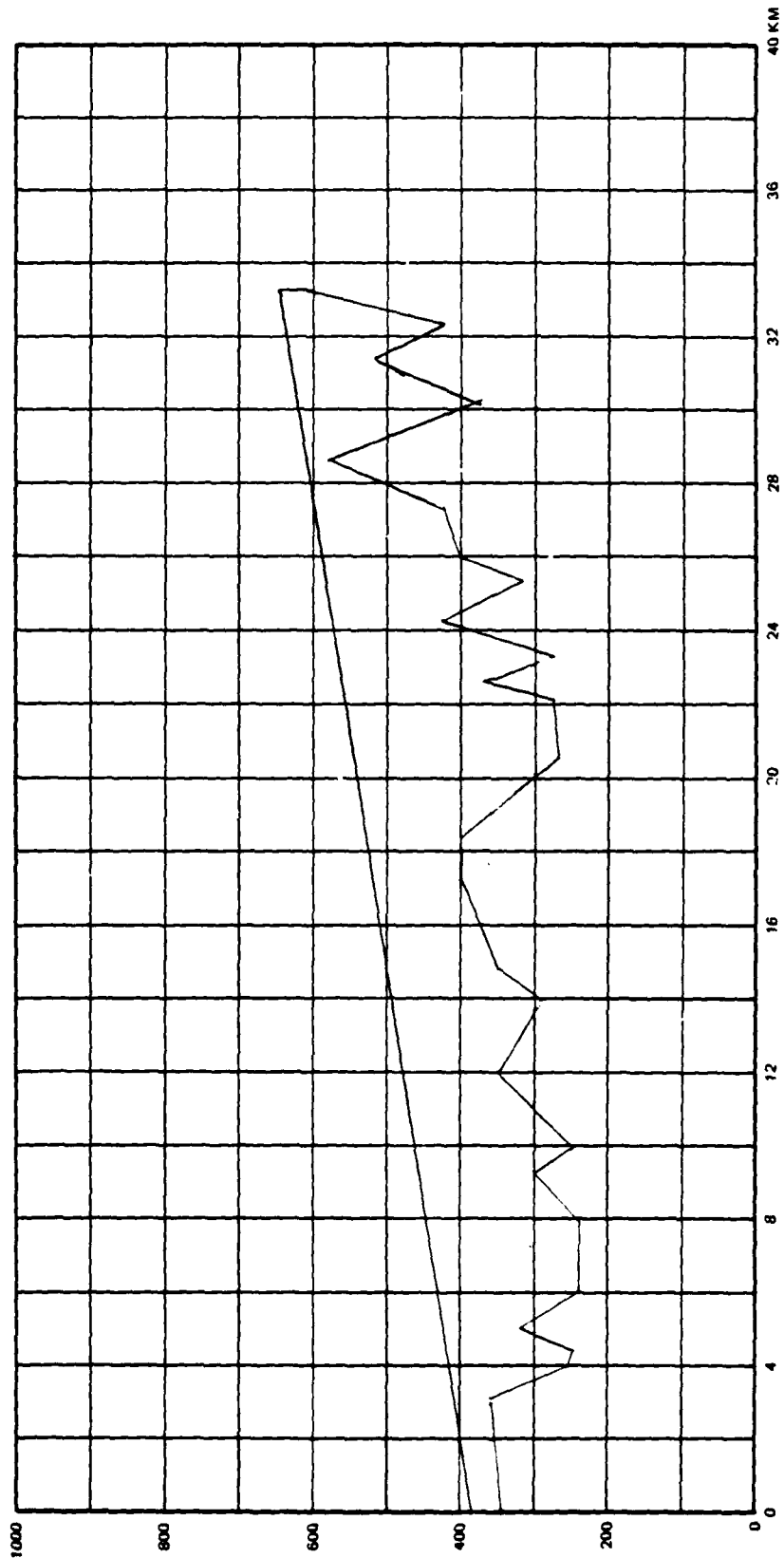
STATION Melibocus
 LATITUDE D 49 M 43 S 32
 LONGITUDE D 08 M 38 S 17
 ELEVATION 516 M
 TOWER HEIGHT 30 M

STATION Wormis
 LATITUDE D 49 M 38 S 28
 LONGITUDE D 08 M 21 S 40
 ELEVATION 101 M
 TOWER HEIGHT 40 M



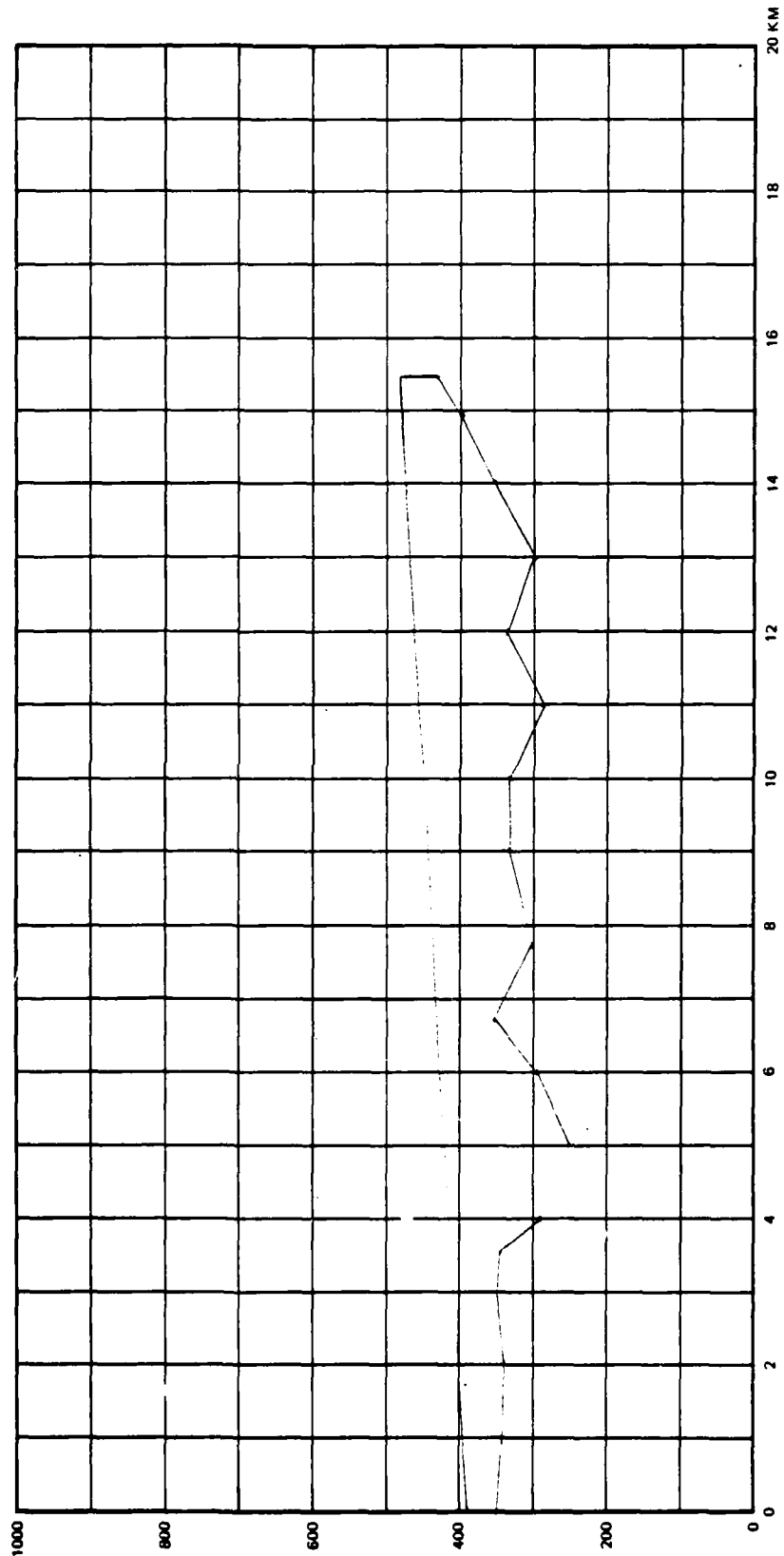
STATION Zweibrucken (AF)
 LATITUDE D 49 M 13 S 48
 LONGITUDE D 07 M 24 S 02
 ELEVATION 345 M
 TOWER HEIGHT 40 M

STATION Langerkopf
 LATITUDE D 49 M 18 S 04
 LONGITUDE D 07 M 50 S 39
 ELEVATION 608 M
 TOWER HEIGHT 40 M



STATION Zweibrücken (AF)
 LATITUDE D 49 M 13 S 48
 LONGITUDE D 07 M 24 S 02
 ELEVATION 345 M
 TOWER HEIGHT 40 M

STATION Pirmasens
 LATITUDE D 49 M 13 S 01
 LONGITUDE D 07 M 36 S 35
 ELEVATION 439 M
 TOWER HEIGHT 40 M



AD-A109 842

TRW DEFENSE AND SPACE SYSTEMS GROUP REDONDO BEACH CA

F/G 17/2

EVALUATION OF DCS III TRANSMISSION ALTERNATIVES, PHASE II, TASK--ETC(U)

AUG 81 T M CHU, S H LIN, D SEGEL, C Y YOON

DCA100-79-C-0044

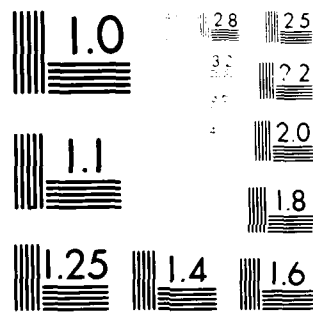
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2 of 2

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10/8/81

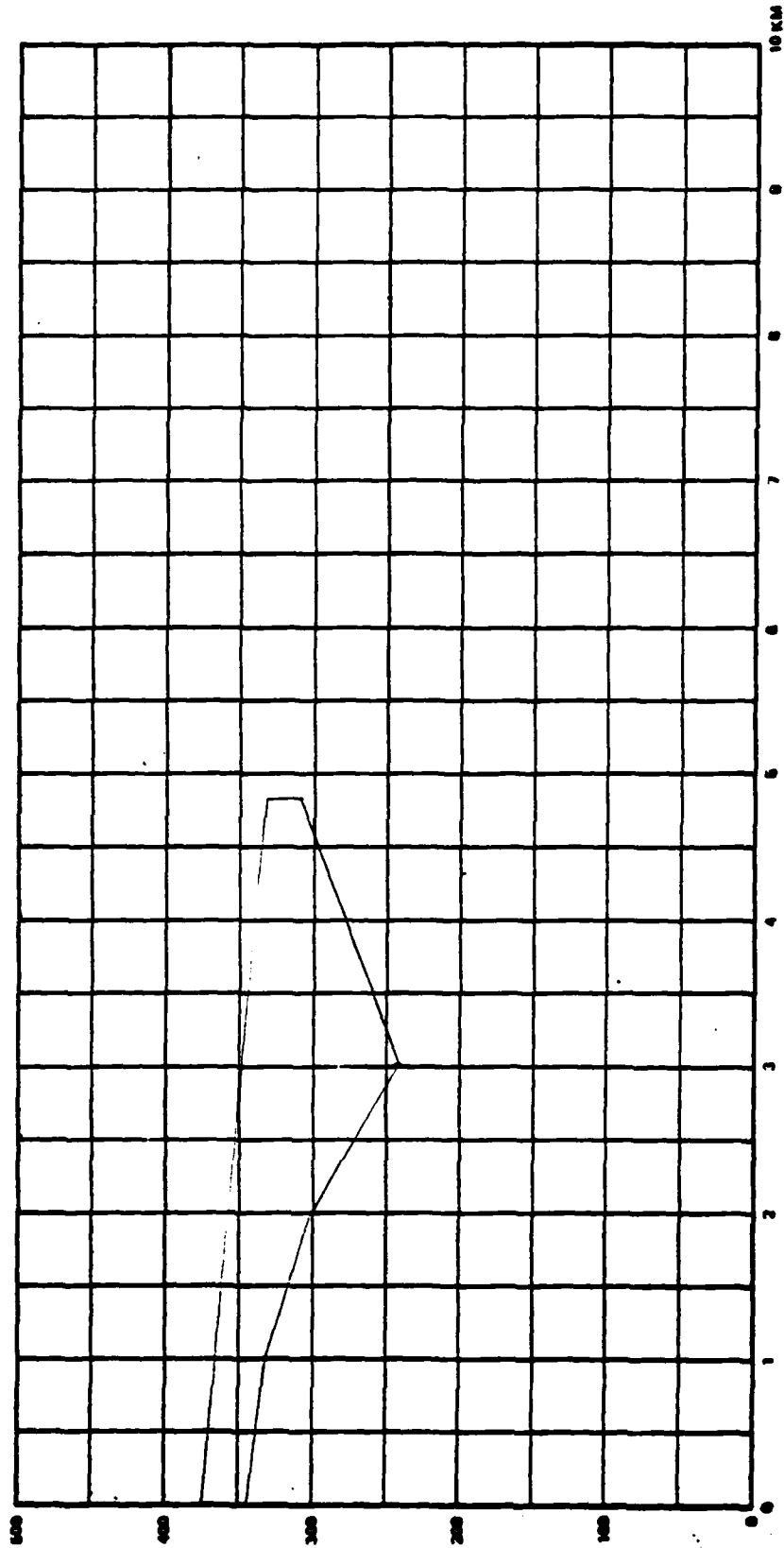
END
DATE
FILMED
02 82
DTIC



MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

STATION Zweibrucken (A)
 LATITUDE D 49 M 15 S 55
 LONGITUDE D 07 M 21 S 51
 ELEVATION 309 M
 TOWER HEIGHT 30 M

STATION Zweibrucken (AF)
 LATITUDE D 49 M 13 S 48
 LONGITUDE D 07 M 24 S 02
 ELEVATION 345 M
 TOWER HEIGHT 30 M

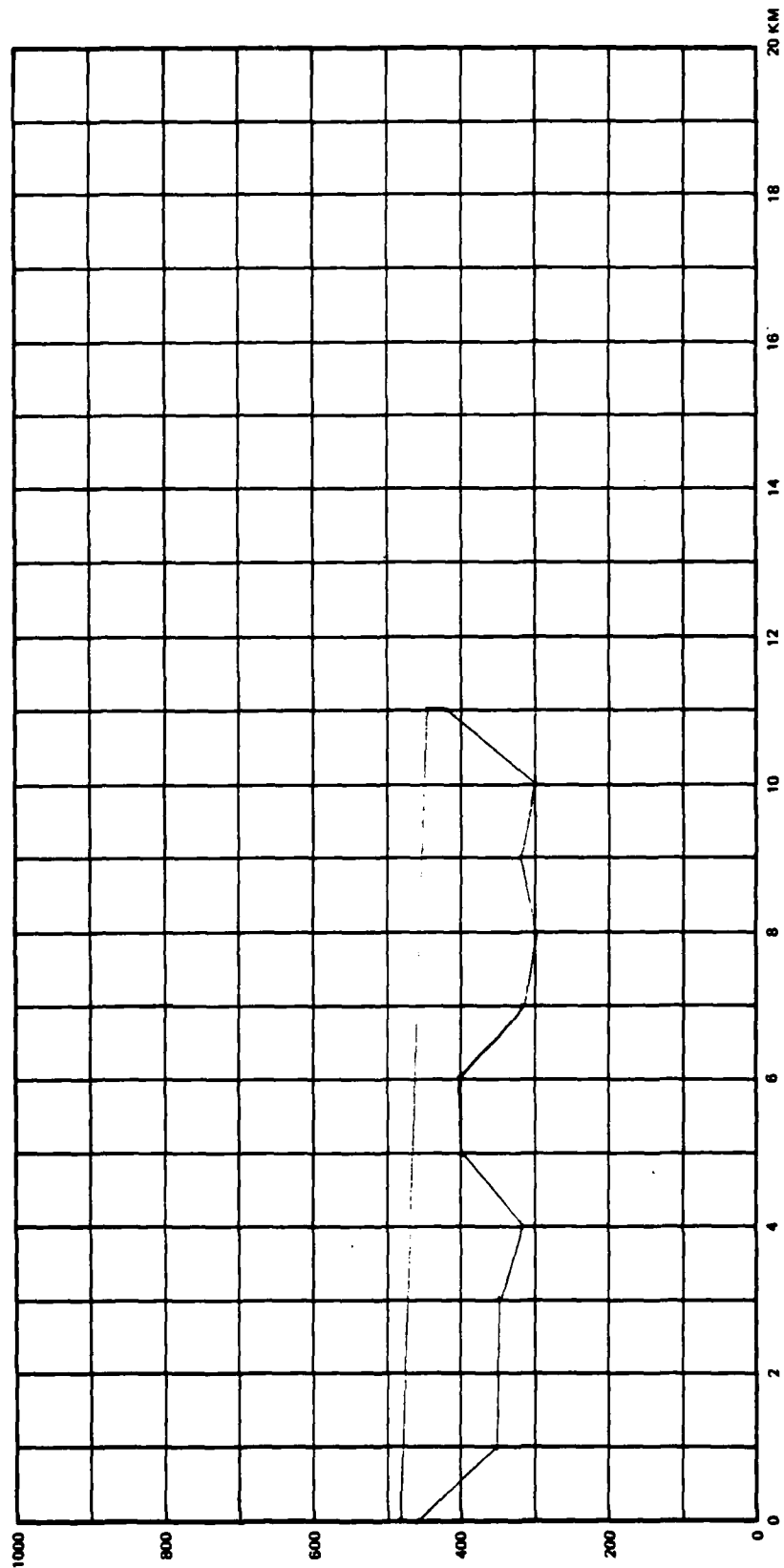


A.4 MILLIMETER WAVE PATH PROFILES OF CENTRAL GERMANY

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1st repeater to
 STATION Langerkopf
 LATITUDE D 49 M 20 S 10
 LONGITUDE D 07 M 42 S 30
 ELEVATION 425 M
 TOWER HEIGHT 20 M

STATION Bann
 LATITUDE D 49 M 23 S 55
 LONGITUDE D 07 M 35 S 18
 ELEVATION 460 M
 TOWER HEIGHT 20 M

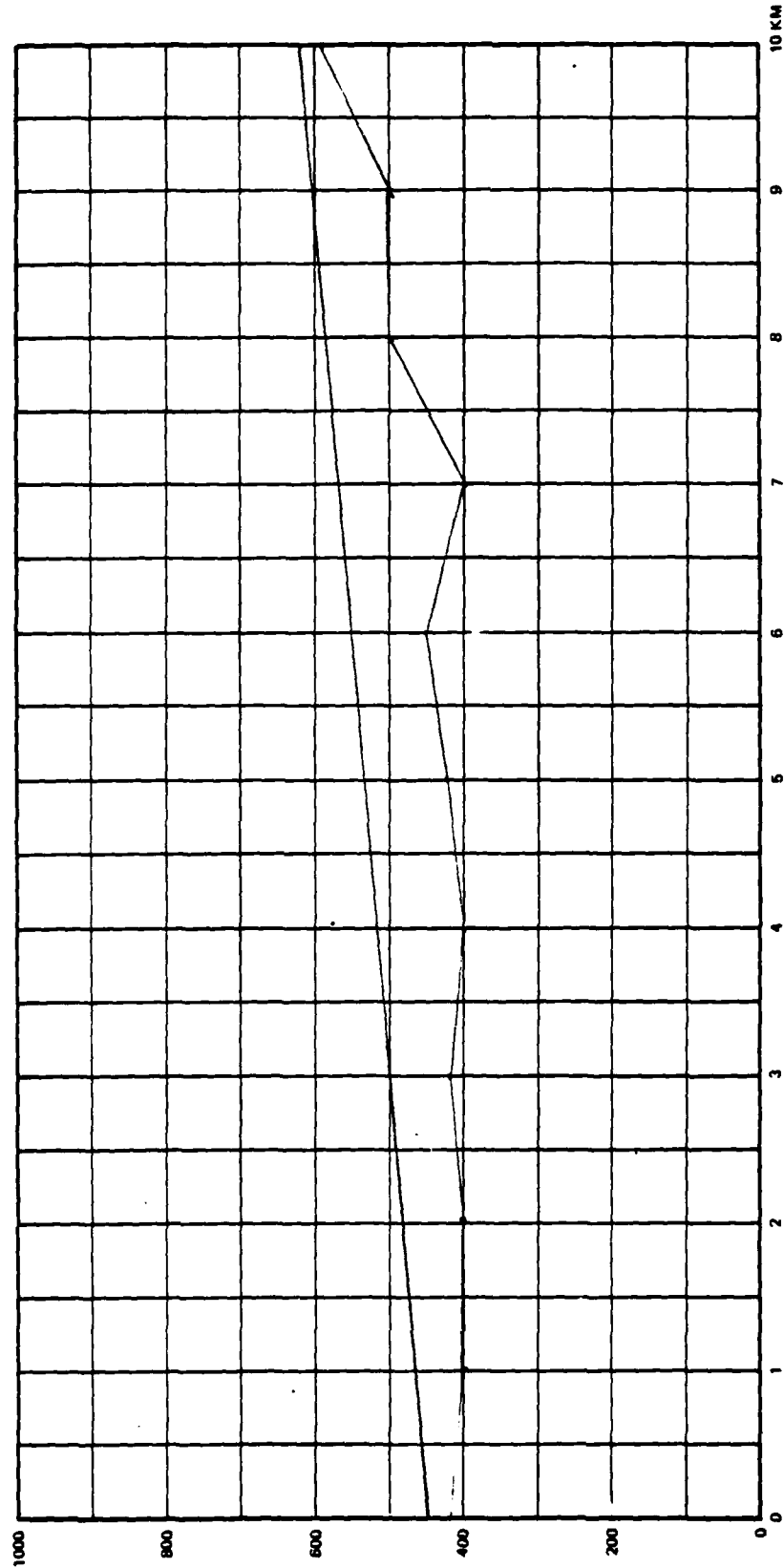


1st repeater from

STATION Bann
LATITUDE D 49 M 20 S 10
LONGITUDE D 07 M 42 S 30
ELEVATION 425 M
TOWER HEIGHT 20 M

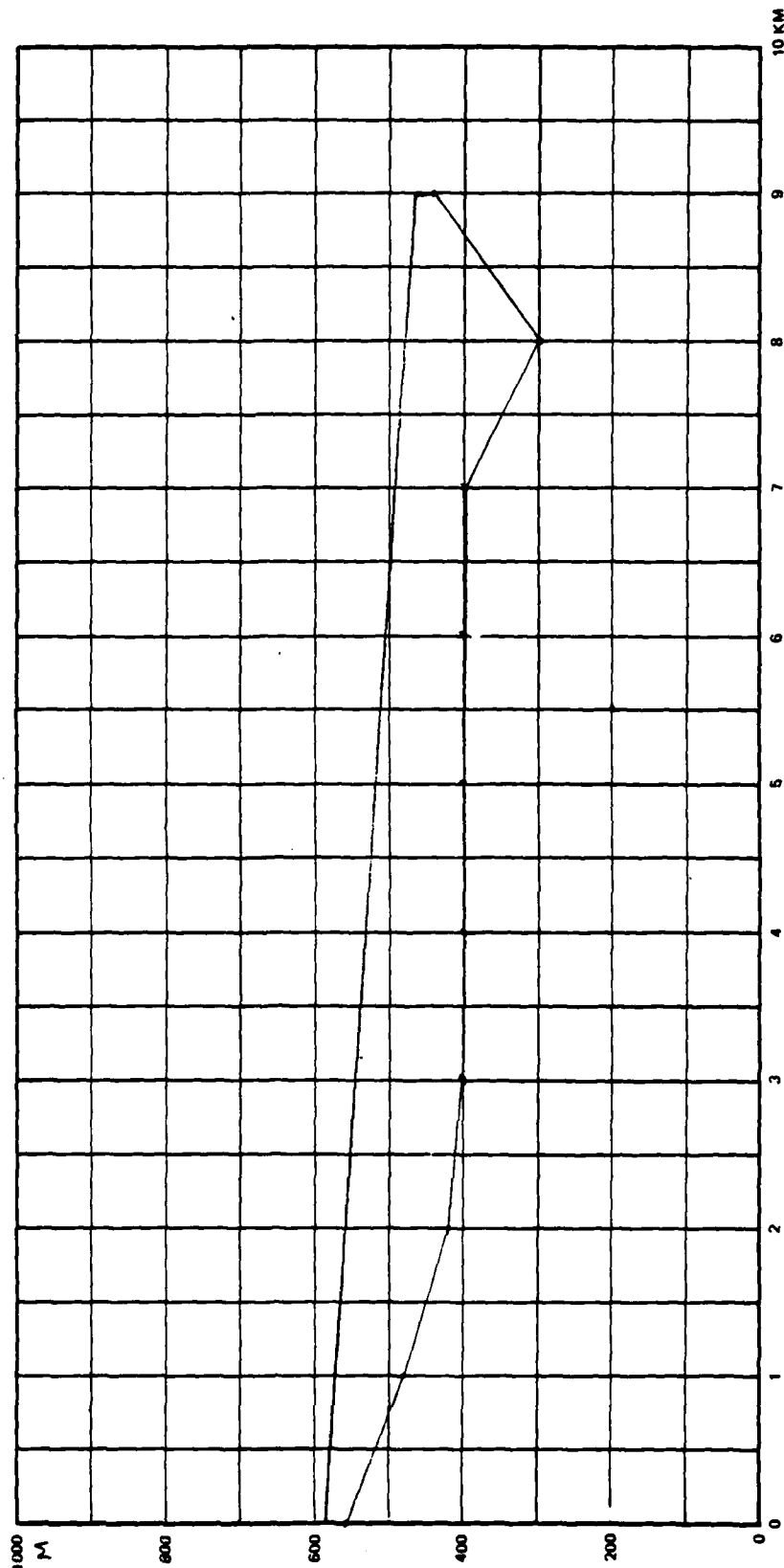
STATION Langerkopf

LATITUDE D 49 M 18 S 04
LONGITUDE D 07 M 50 S 39
ELEVATION 596 M
TOWER HEIGHT 20 M



1st repeater to
 STATION Donnersberg
 LATITUDE D 49 M 36 S 00
 LONGITUDE D 07 M 25 S 30
 ELEVATION 446 M
 TOWER HEIGHT 20 M

STATION Baumholder
 LATITUDE D 49 M 38 S 08
 LONGITUDE D 07 M 19 S 33
 ELEVATION 563 M
 TOWER HEIGHT 20 M

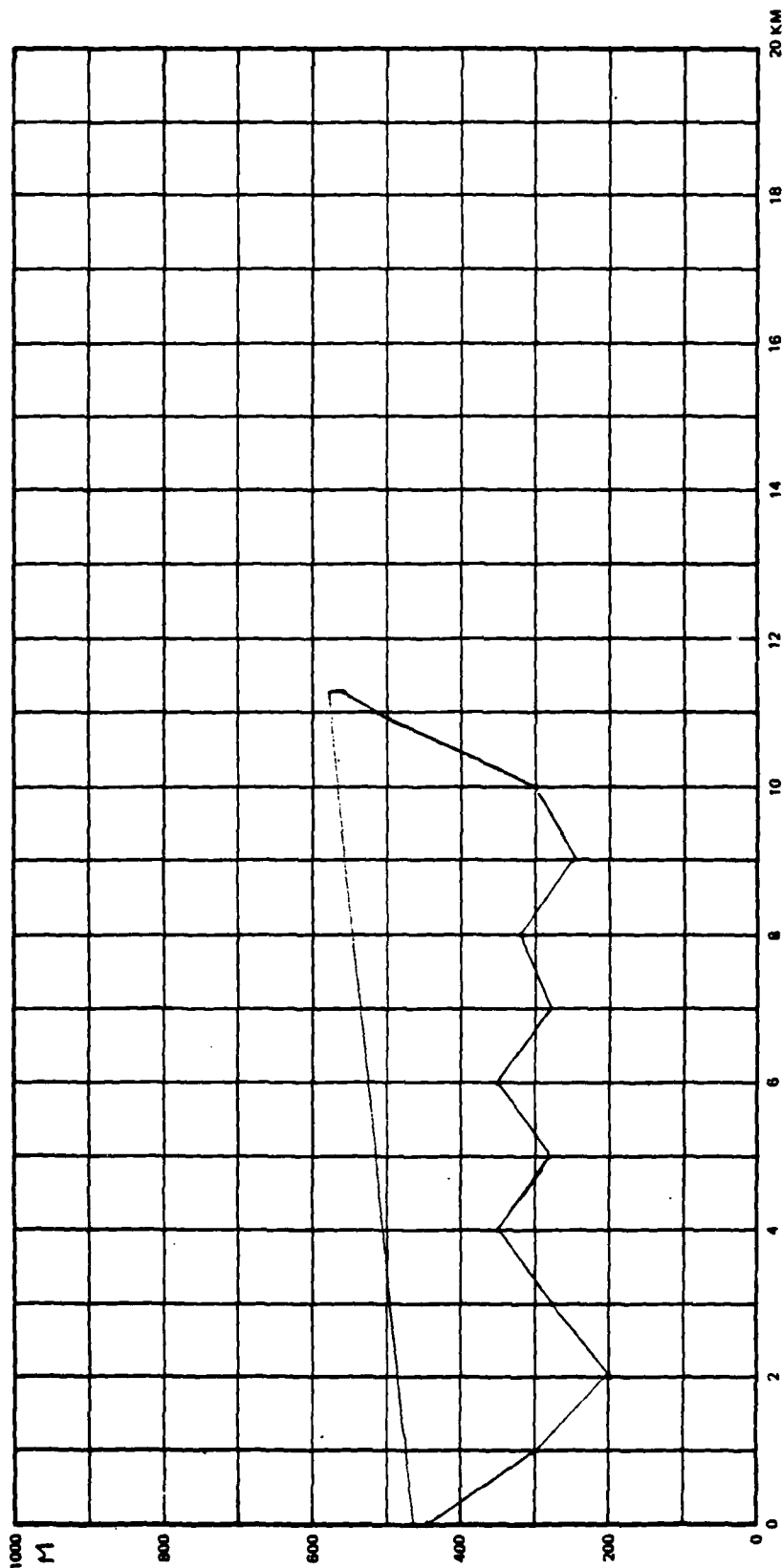


1st repeater from

STATION Baumholder
 LATITUDE D 49 M 36 S 00
 LONGITUDE D 07 M 25 S 30
 ELEVATION 446 M
 TOWER HEIGHT 20 M

2nd repeater to

STATION Donnersberg
 LATITUDE D 49 M 34 S 30
 LONGITUDE D 07 M 34 S 50
 ELEVATION 561 M
 TOWER HEIGHT 20 M

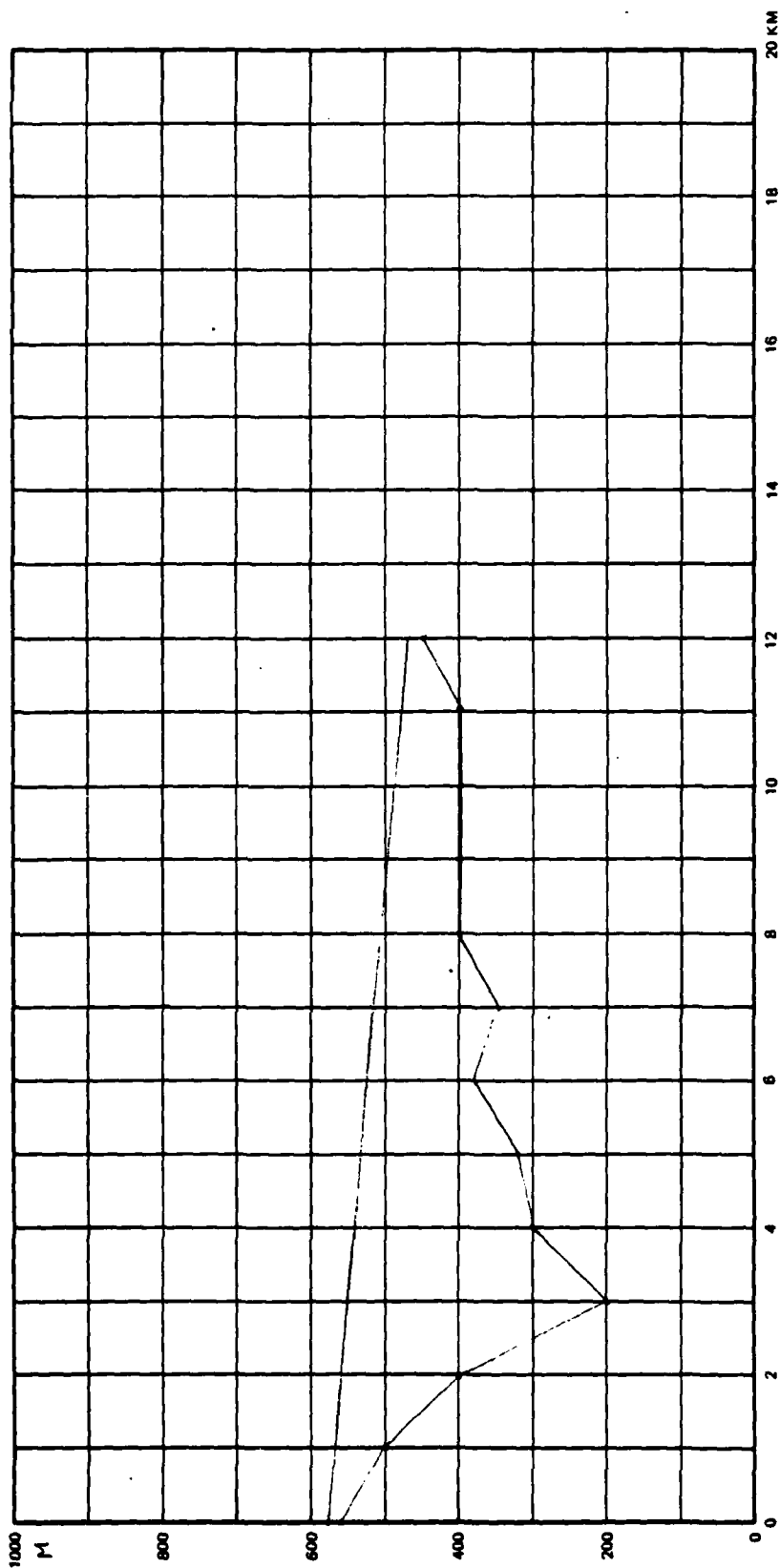


2nd repeater from
Baumholder

STATION D 49 M 34 S 30
 LATITUDE D 07 M 34 S 50
 LONGITUDE E 561 M
 ELEVATION 20 M
 TOWER HEIGHT

3rd repeater to

Donnersberg
 STATION D 49 M 34 S 20
 LATITUDE D 07 M 44 S 30
 LONGITUDE E 450 M
 ELEVATION 20 M
 TOWER HEIGHT



3rd repeater from

STATION Baumholder

LATITUDE D 49 N 34 S 20

LONGITUDE D 7 M 44 S 30

ELEVATION 450 M

TOWER HEIGHT 20 M

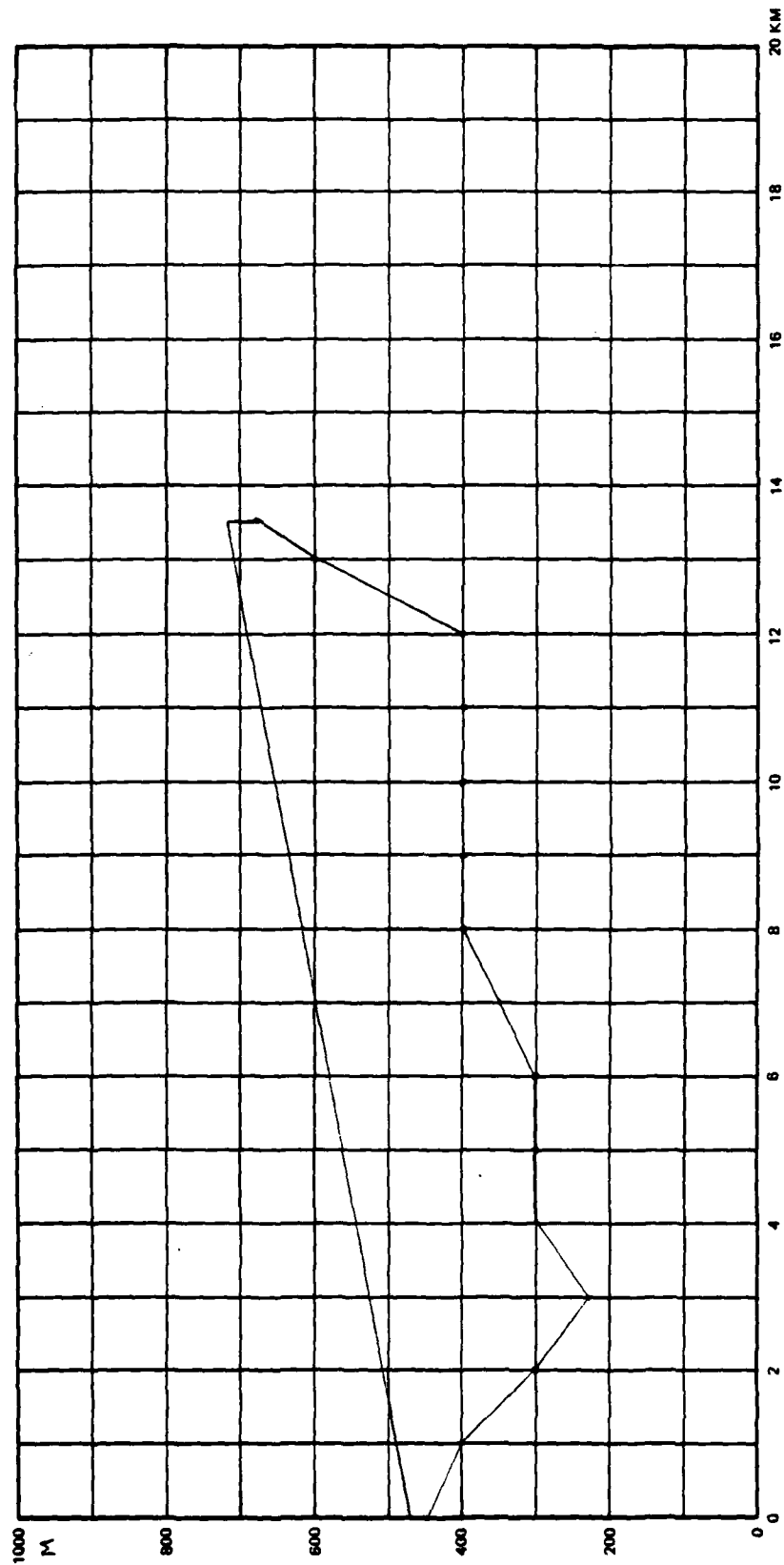
STATION Dommersberg

LATITUDE D 49 N 37 S 23

LONGITUDE D 7 M 55 S 13

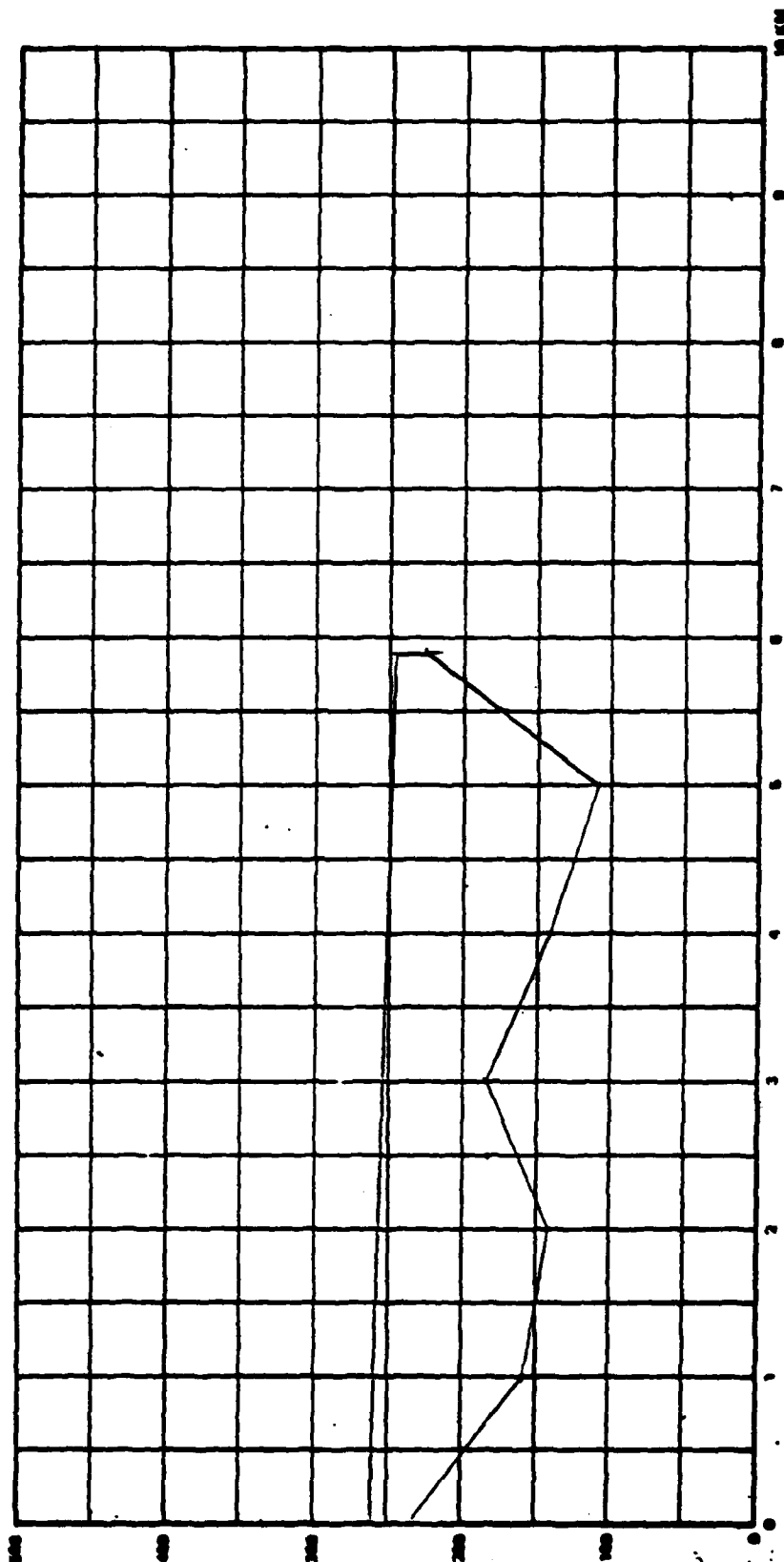
ELEVATION 685 M

TOWER HEIGHT 30 M



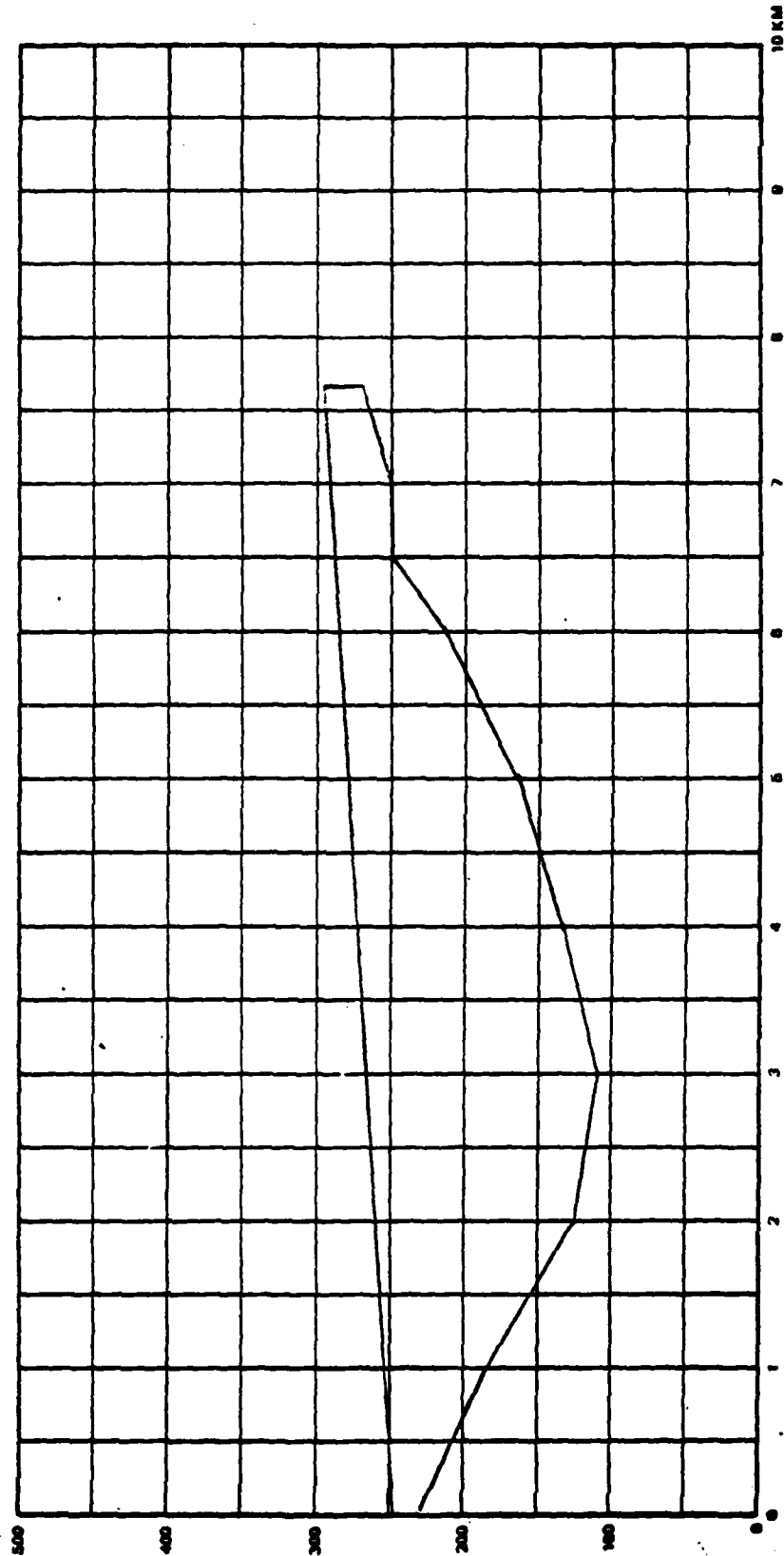
1st repeater to
 STATION Lindsey
 LATITUDE D 49 M 51 S 28
 LONGITUDE D 07 M 55 S 50
 ELEVATION 227 M
 TOWER HEIGHT 20 M

STATION B. Krenznach
 LATITUDE D 49 M 49 S 27
 LONGITUDE D 07 M 51 S 53
 ELEVATION 237 M
 TOWER HEIGHT 20 M



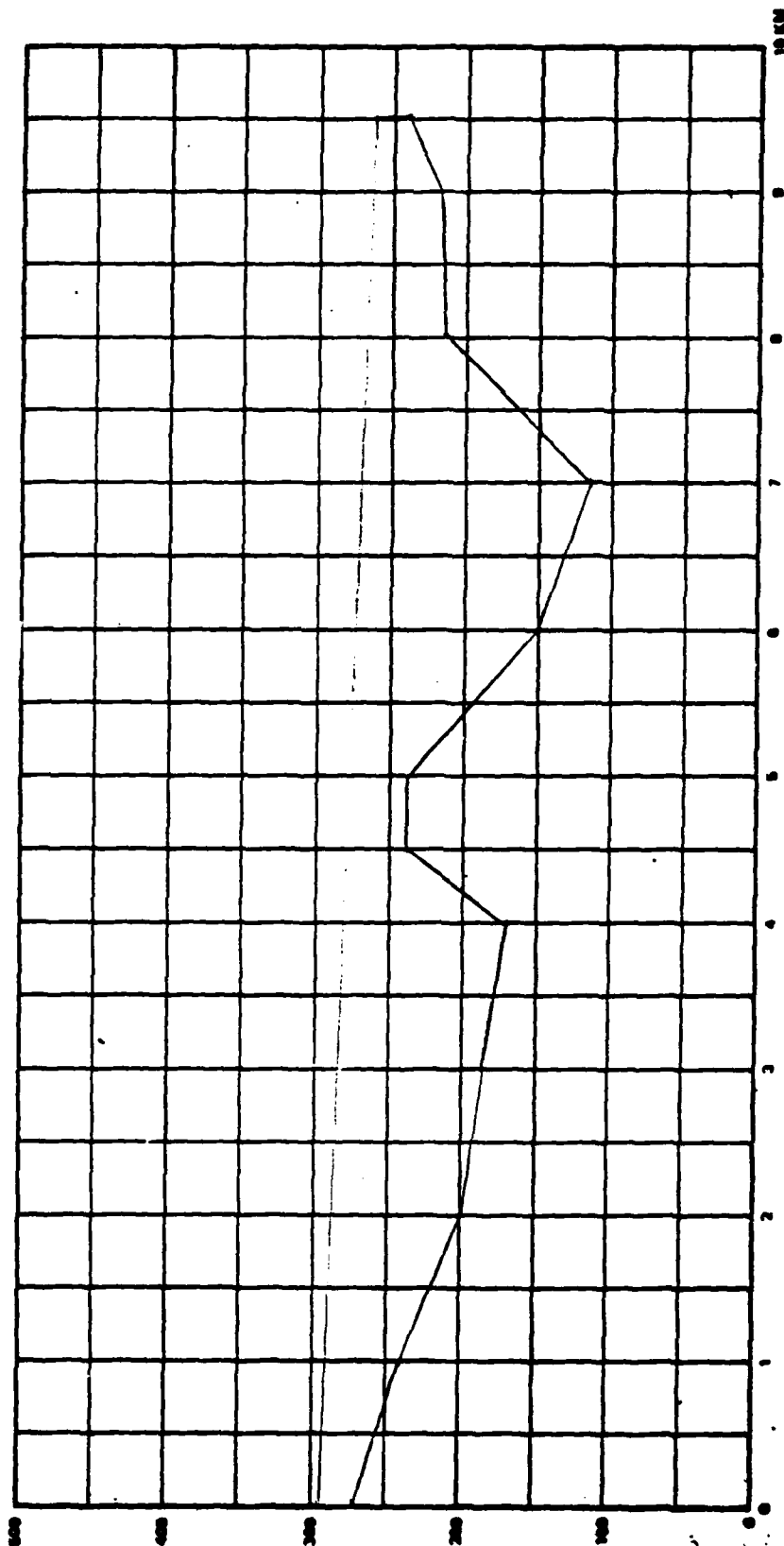
2nd repeater to
 STATION Lindsey
 LATITUDE D 49 M 55 S 40
 LONGITUDE D 07 M 59 S 50
 ELEVATION 273 M
 TOWER HEIGHT 20 M

1st repeater from
 STATION B. Krenznach
 LATITUDE D 49 M 51 S 28
 LONGITUDE D 7 M 55 S 50
 ELEVATION 227 M
 TOWER HEIGHT 20 M



2nd repeater from
 STATION B. Krenzach
 LATITUDE D 49 M 55 S 40
 LONGITUDE D 07 M 59 S 50
 ELEVATION 273 M
 TOWER HEIGHT 20 M

3rd repeater to
 STATION Lindsey
 LATITUDE D 49 M 57 S 48
 LONGITUDE D 08 M 05 S 10
 ELEVATION 240 M
 TOWER HEIGHT 20 M

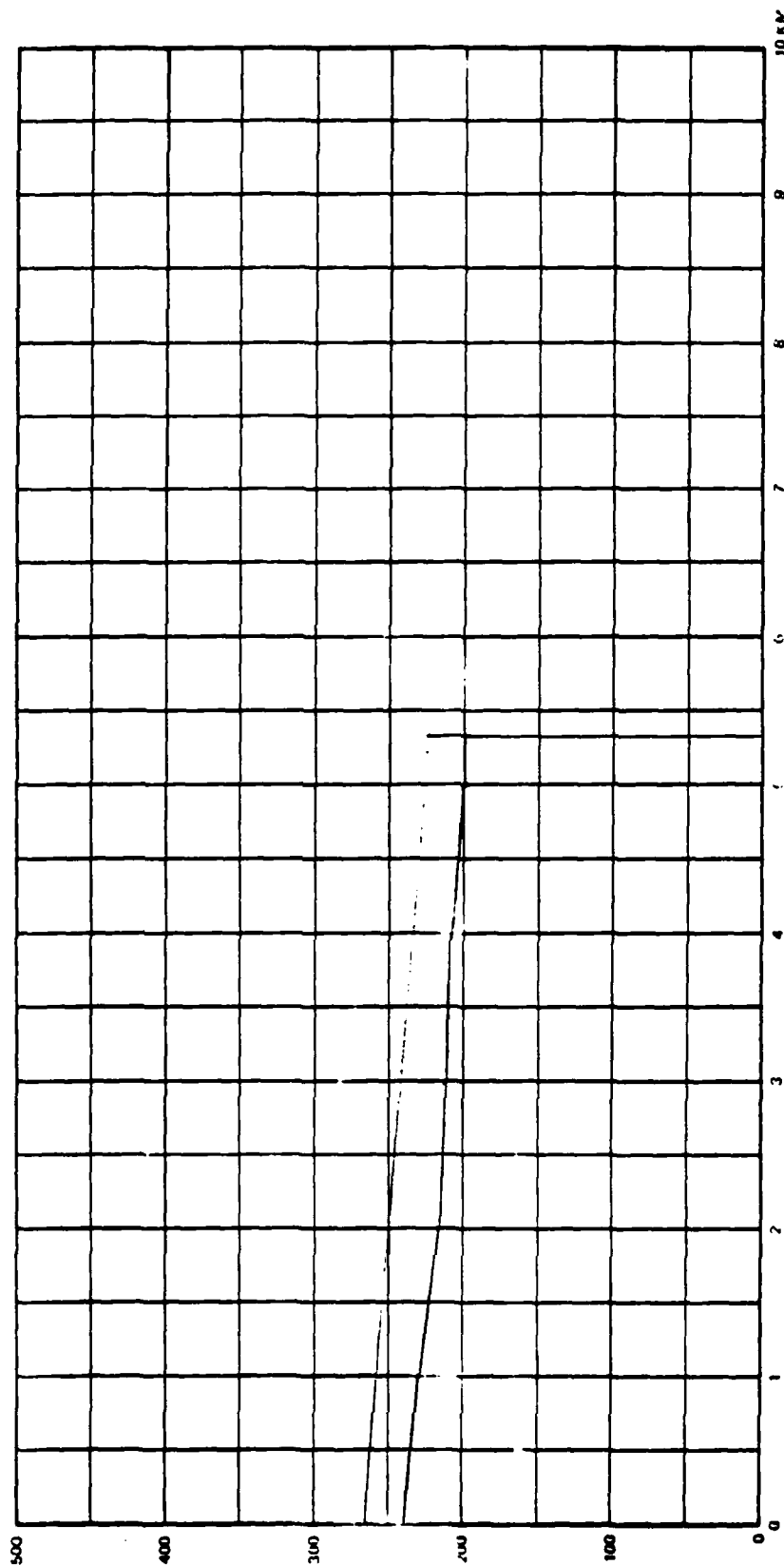


3rd repeater from

STATION B. Krenznach
 LATITUDE D 49 M 57 S 48
 LONGITUDE D 08 M 05 S 10
 ELEVATION 240 M
 TOWER HEIGHT 20 M

4th repeater to

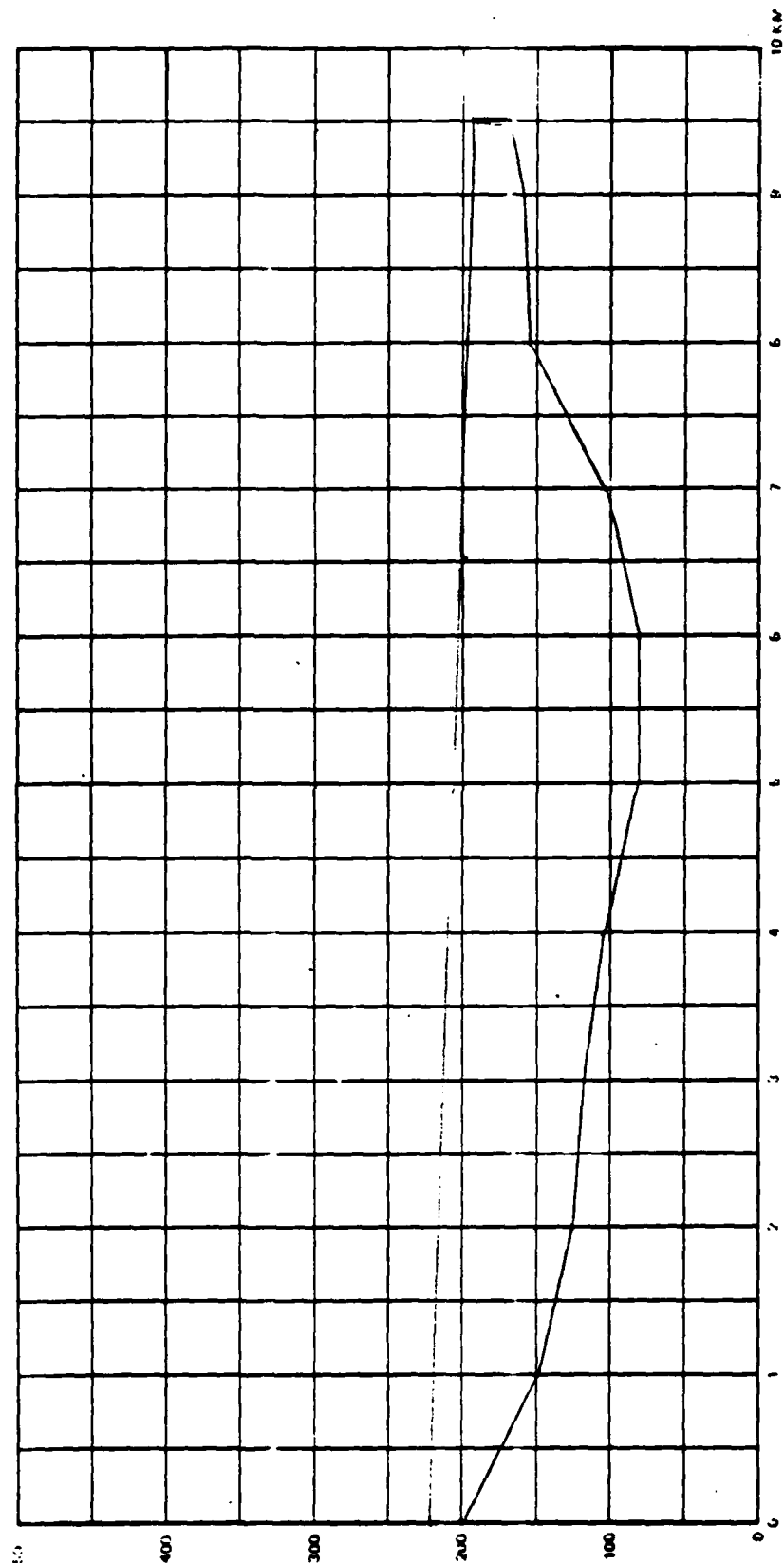
STATION Lindsey
 LATITUDE D 49 M 59 S 46
 LONGITUDE D 08 M 09 S 25
 ELEVATION 200 M
 TOWER HEIGHT 20 M



4th repeater from

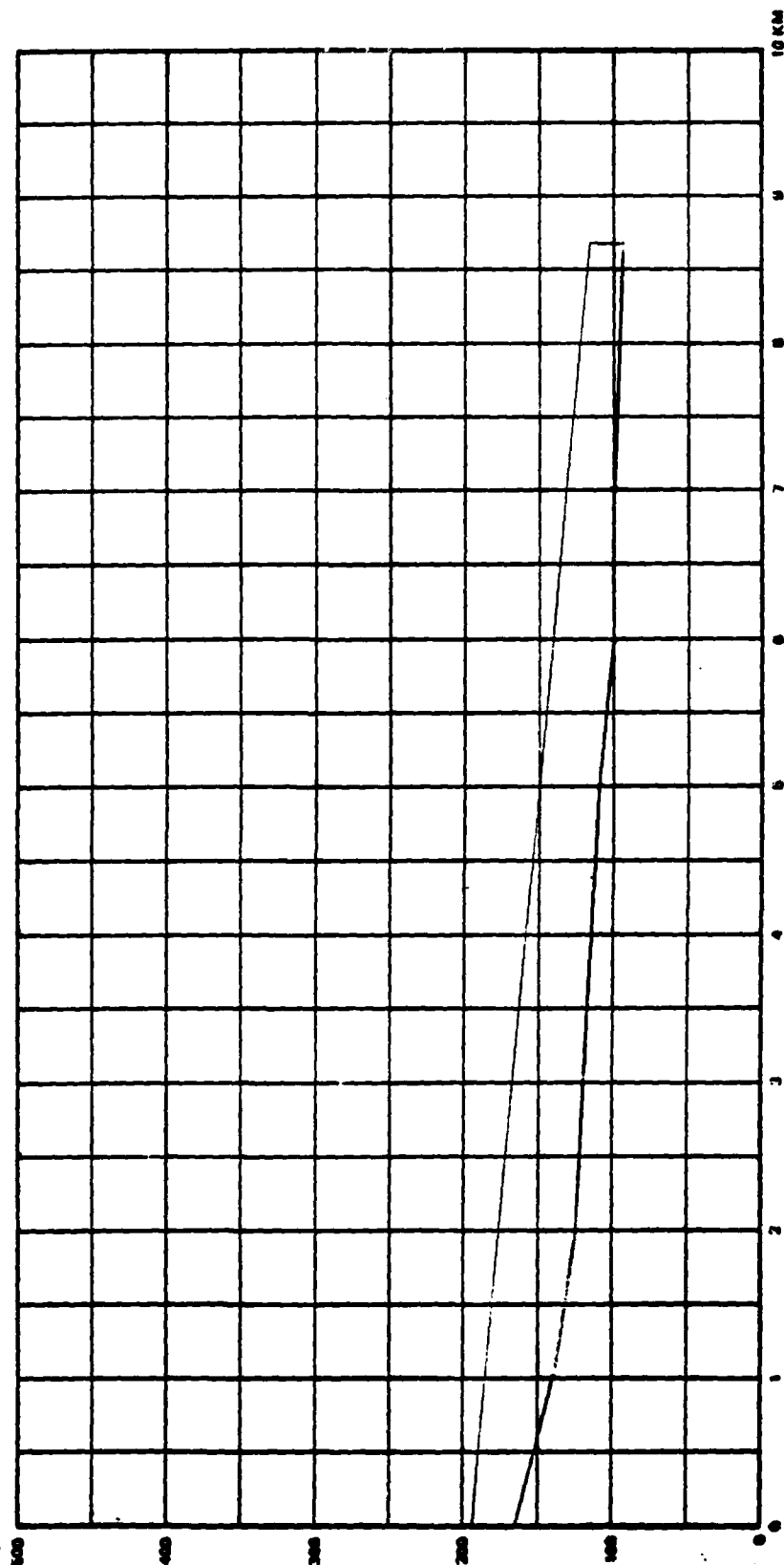
STATION B. Krenzach
 LATITUDE D 49 M 59 S 46
 LONGITUDE D 08 M 09 S 25
 ELEVATION 200 M
 TOWER HEIGHT 20 M

STATION Lindsey
 LATITUDE D 50 M 04 S 17
 LONGITUDE D 08 M 13 S 24
 ELEVATION 170 M
 TOWER HEIGHT 20 M



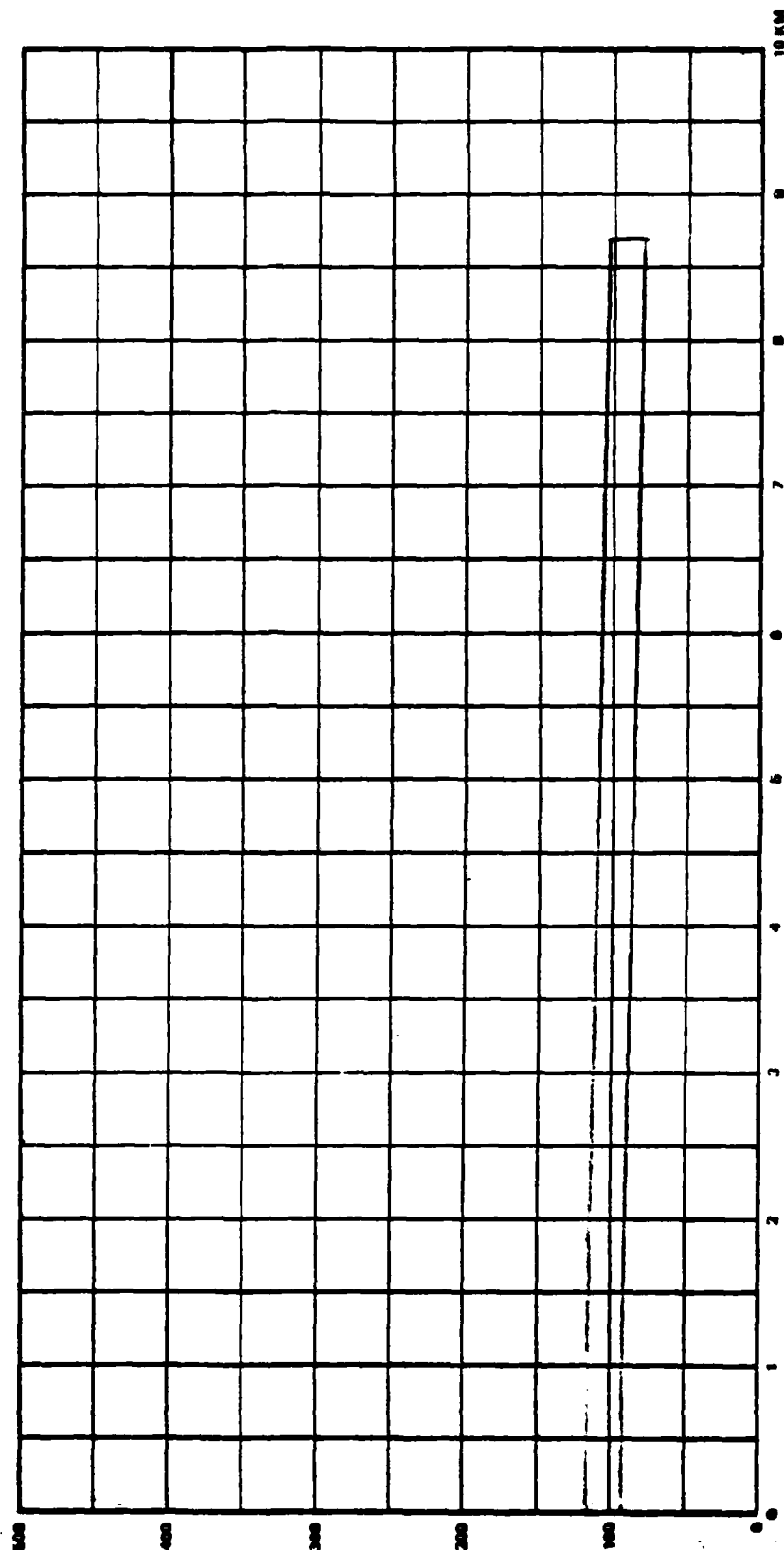
1st repeater to
 STATION Wiesbaden
 LATITUDE D 49 M 52 S 20
 LONGITUDE D 08 M 32 S 27
 ELEVATION 95 M
 TOWER HEIGHT 20 M

STATION Darmstadt
 LATITUDE D 49 M 50 S 55
 LONGITUDE D 08 M 39 S 19
 ELEVATION 170 M
 TOWER HEIGHT 20 M



2nd repeater to
 STATION Wiesbaden
 LATITUDE D 49 M 55 S 11
 LONGITUDE D 08 M 26 S 48
 ELEVATION 85 M
 TOWER HEIGHT 20 M

1st repeater from
 STATION Darmstadt
 LATITUDE D 49 M 52 S 20
 LONGITUDE D 08 M 32 S 27
 ELEVATION 95 M
 TOWER HEIGHT 20 M

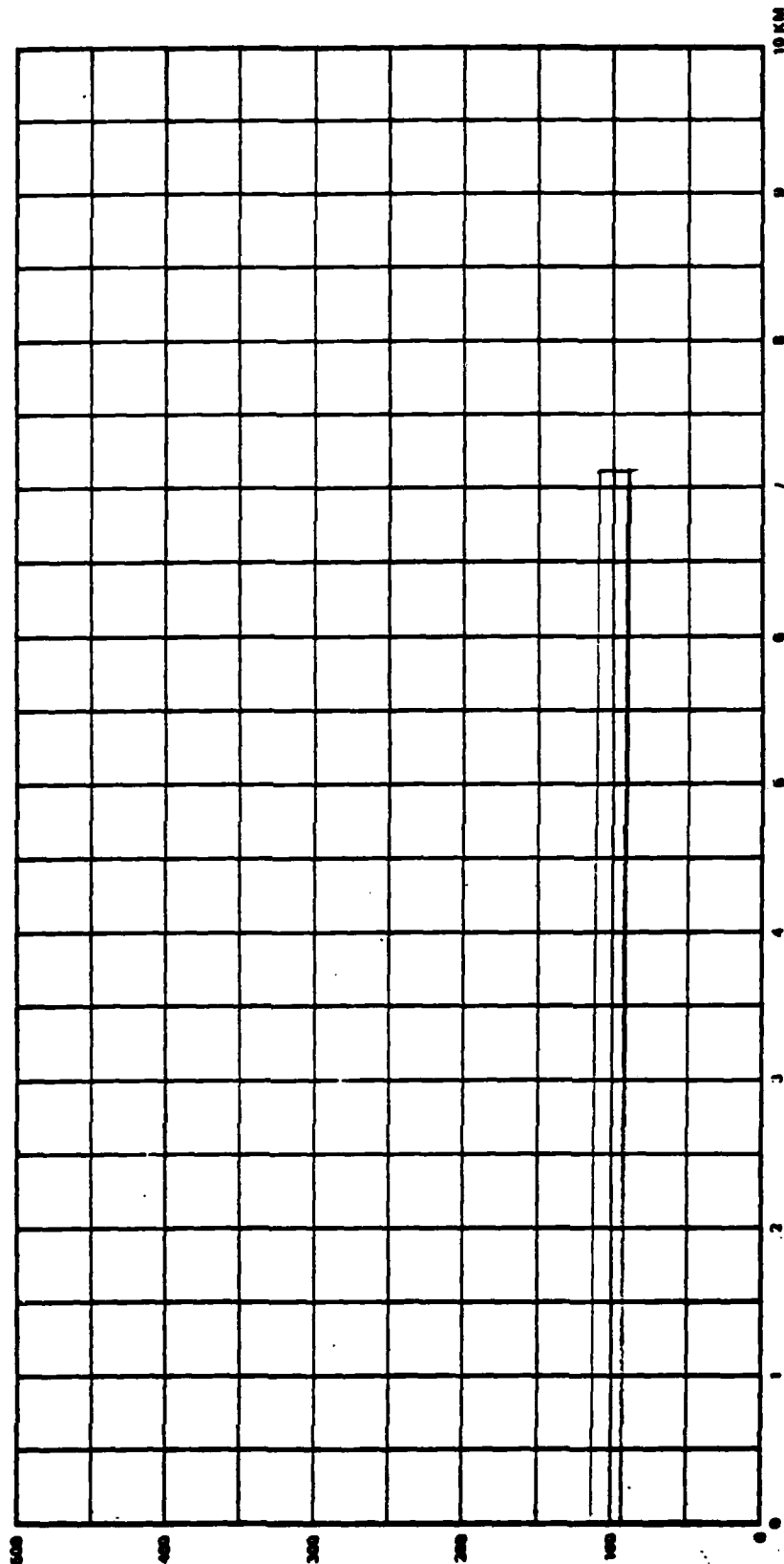


2nd repeater from

STATION Darmstadt
LATITUDE D 49 M 55 S 11
LONGITUDE D 08 M 26 S 48
ELEVATION 95 M
TOWER HEIGHT 20 M

3rd repeater to

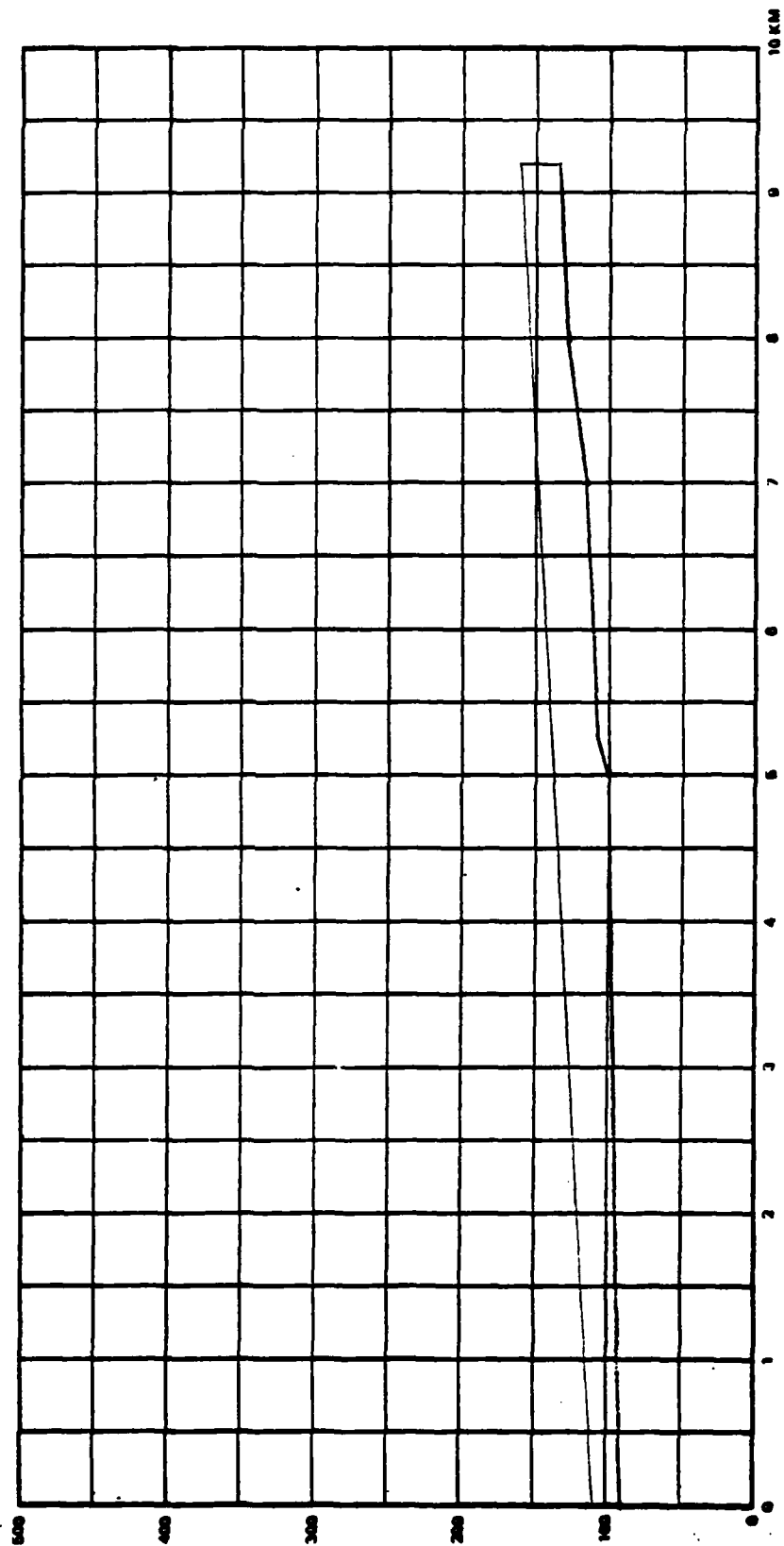
STATION Wiesbaden
LATITUDE D 49 M 58 S 05
LONGITUDE D 08 M 22 S 45
ELEVATION 90 M
TOWER HEIGHT 20 M



3rd repeater from

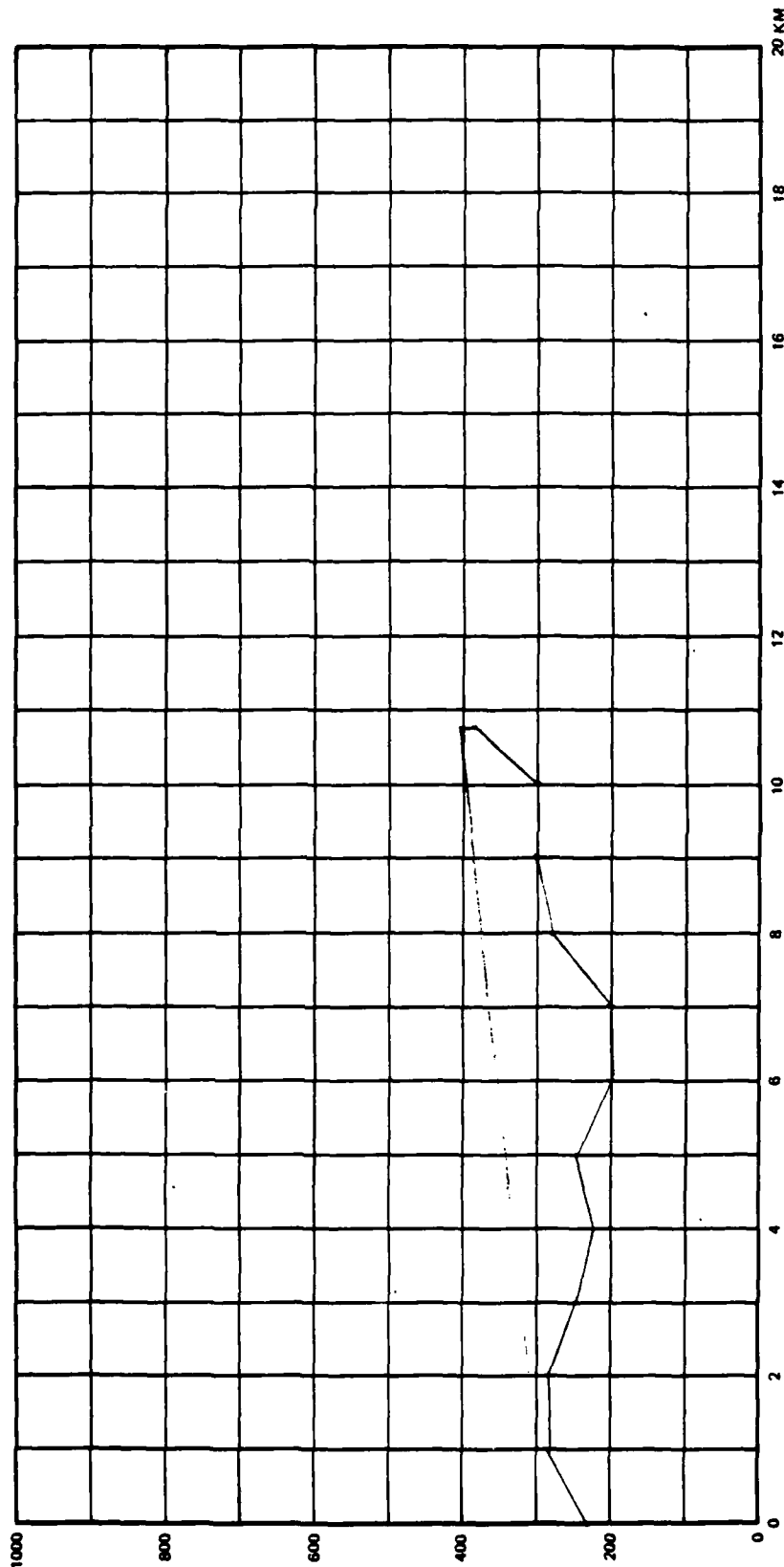
STATION Darmstadt
LATITUDE D 49 M 58 S 05
LONGITUDE D 08 M 22 S 45
ELEVATION 90 M
TOWER HEIGHT 20 M

STATION Wiesbaden
LATITUDE D 50 M 02 S 30
LONGITUDE D 08 M 19 S 35
ELEVATION 137 M
TOWER HEIGHT 30 M



1st repeater to
 STATION Donnersberg
 LATITUDE D 49 M 44 S 00
 LONGITUDE D 07 M 55 S 40
 ELEVATION 385 M
 TOWER HEIGHT 20 M

STATION B. Krenznach
 LATITUDE D 49 M 49 S 27
 LONGITUDE D 07 M 51 S 53
 ELEVATION 237 M
 TOWER HEIGHT 66 M



1st repeater from

STATION B. Krenznach

LATITUDE D 49 M 44 S 00

LONGITUDE D 07 M 55 S 40

ELEVATION 385 M

TOWER HEIGHT 20 M

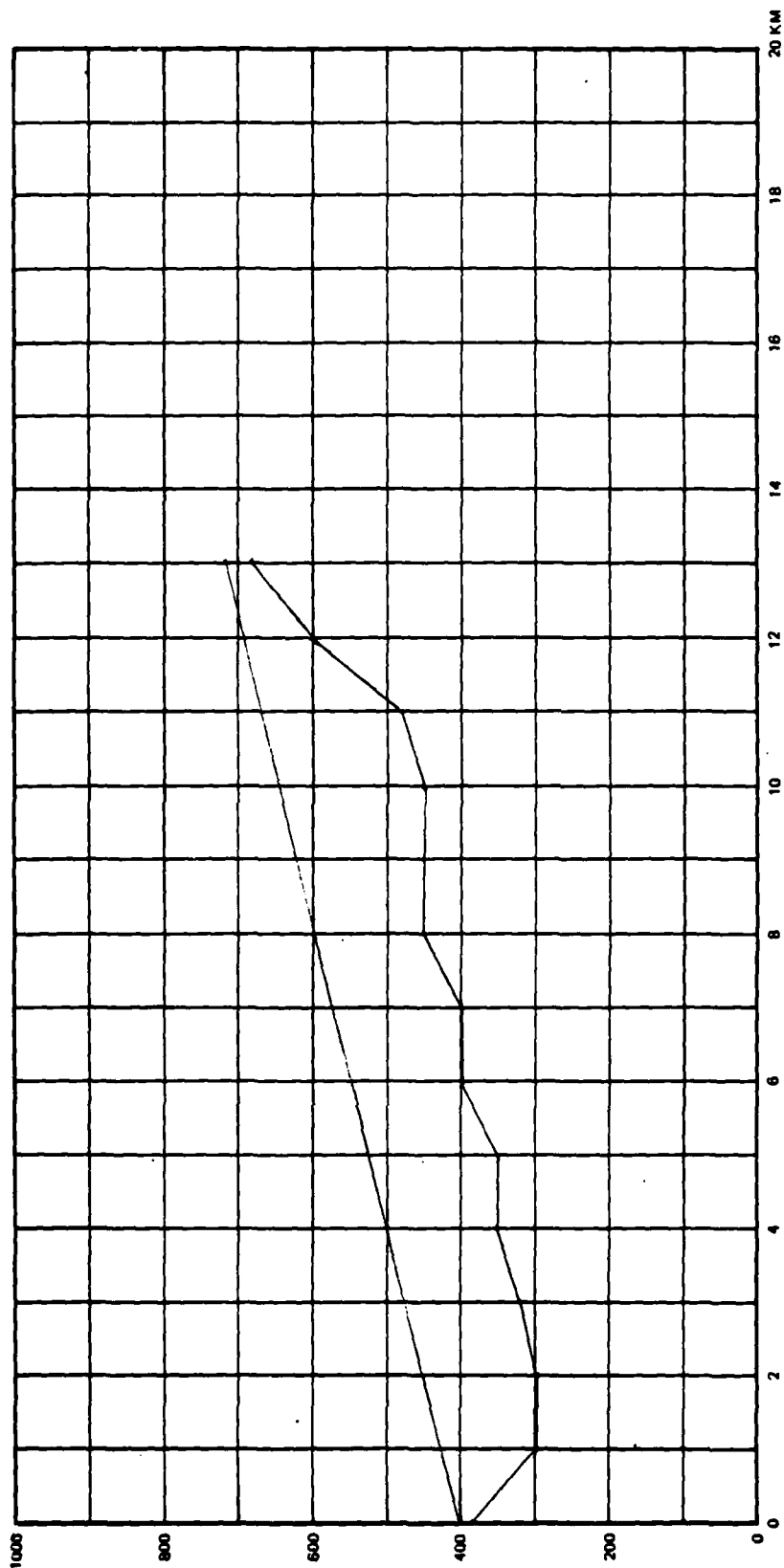
STATION Donnersberg

LATITUDE D 49 M 37 S 23

LONGITUDE D 07 M 55 S 13

ELEVATION 685 M

TOWER HEIGHT 40 M

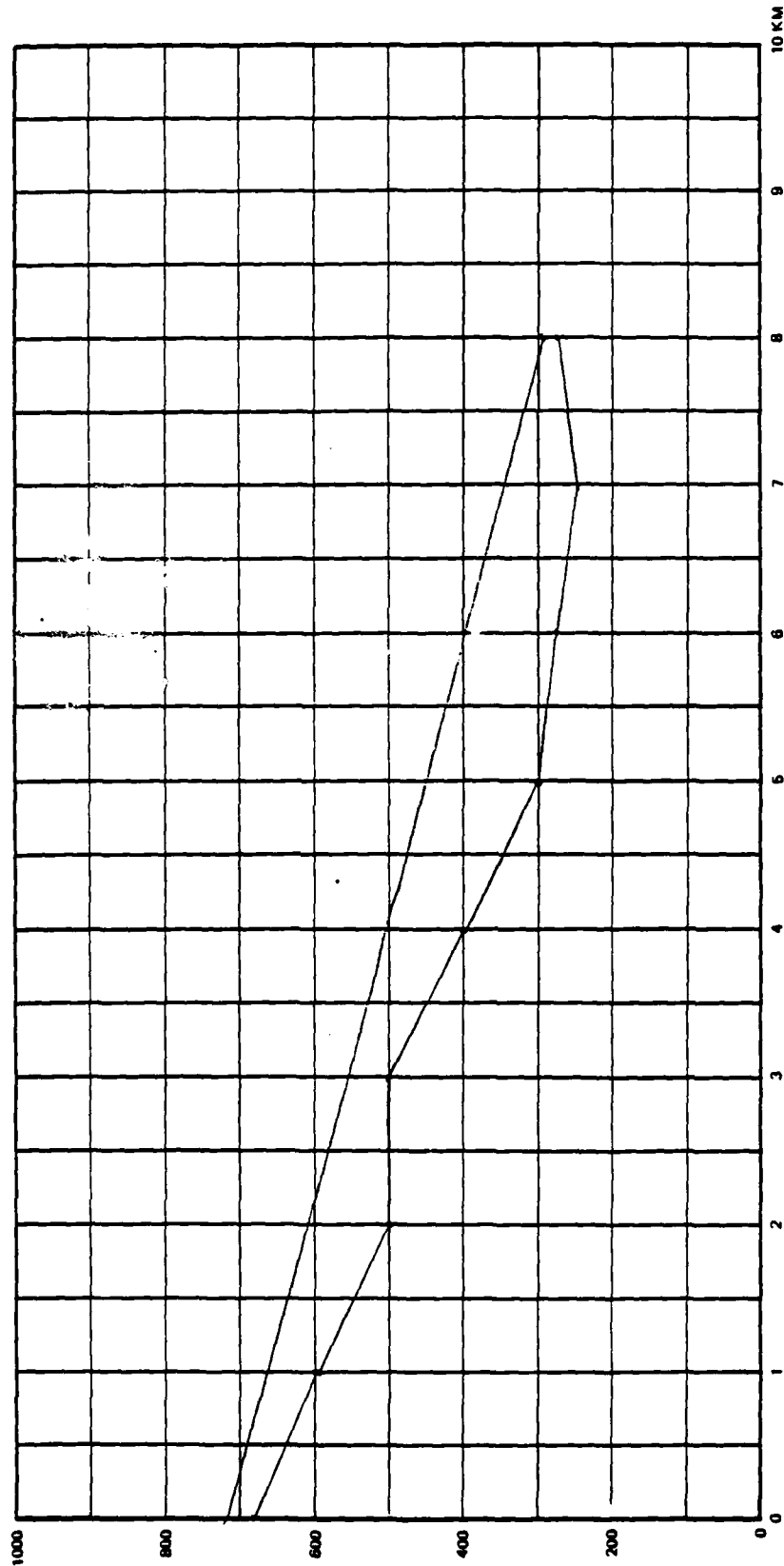


STATION Donnersberg

LATITUDE D 49 M 37 S 23
LONGITUDE D 07 M 55 S 13
ELEVATION 685 M
TOWER HEIGHT 40 M

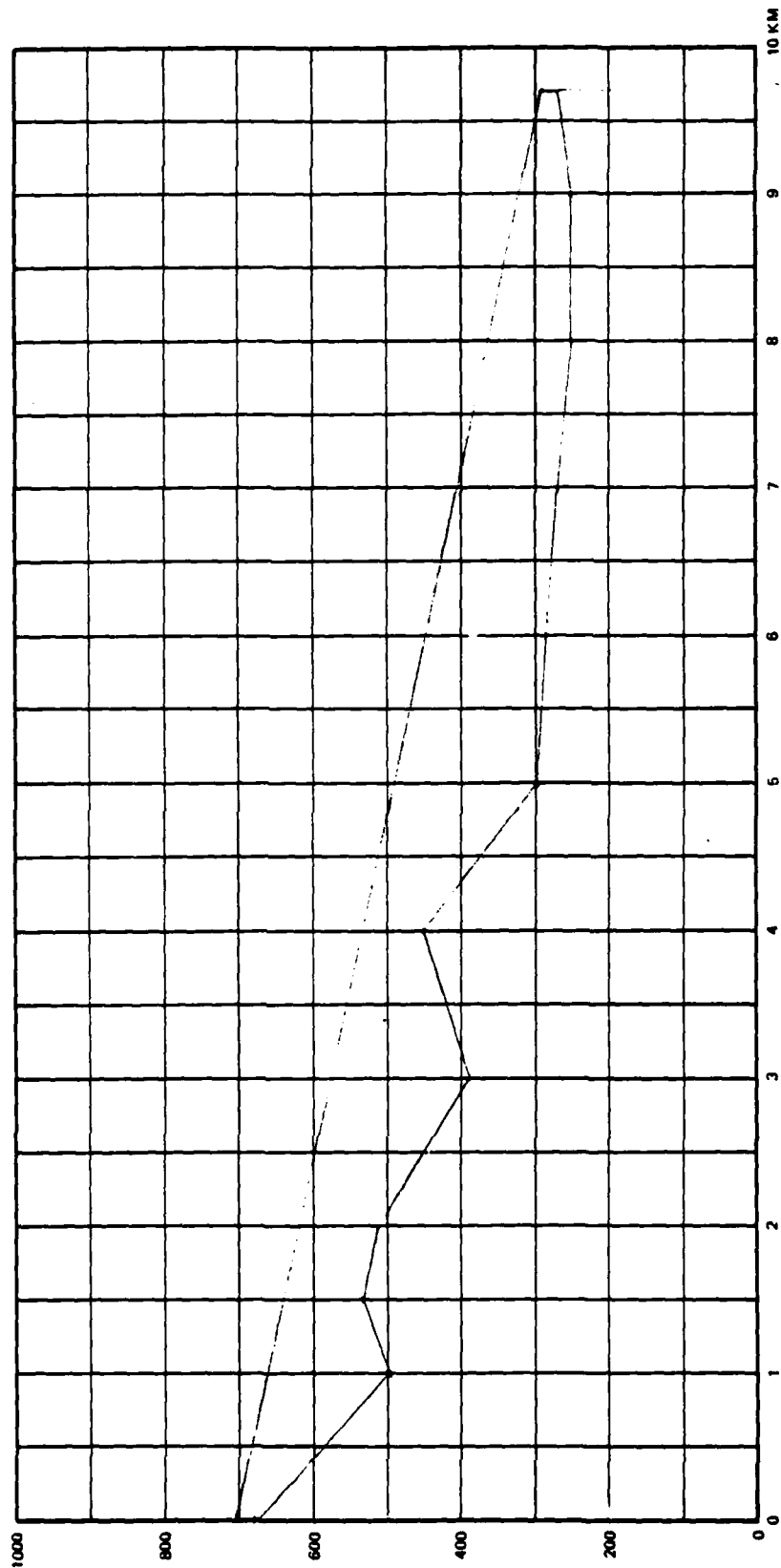
STATION Lohnsfeld

LATITUDE D 49 M 33 S 00
LONGITUDE D 07 M 51 S 10
ELEVATION 271 M
TOWER HEIGHT 20 M



STATION Donnersberg
 LATITUDE D 49 M 37 S 23
 LONGITUDE D 07 M 55 S 13
 ELEVATION 685 M
 TOWER HEIGHT 20 M

STATION Lohnsfeld
 LATITUDE D 49 M 33 S 00
 LONGITUDE D 07 M 51 S 10
 ELEVATION 271 M
 TOWER HEIGHT 20 M

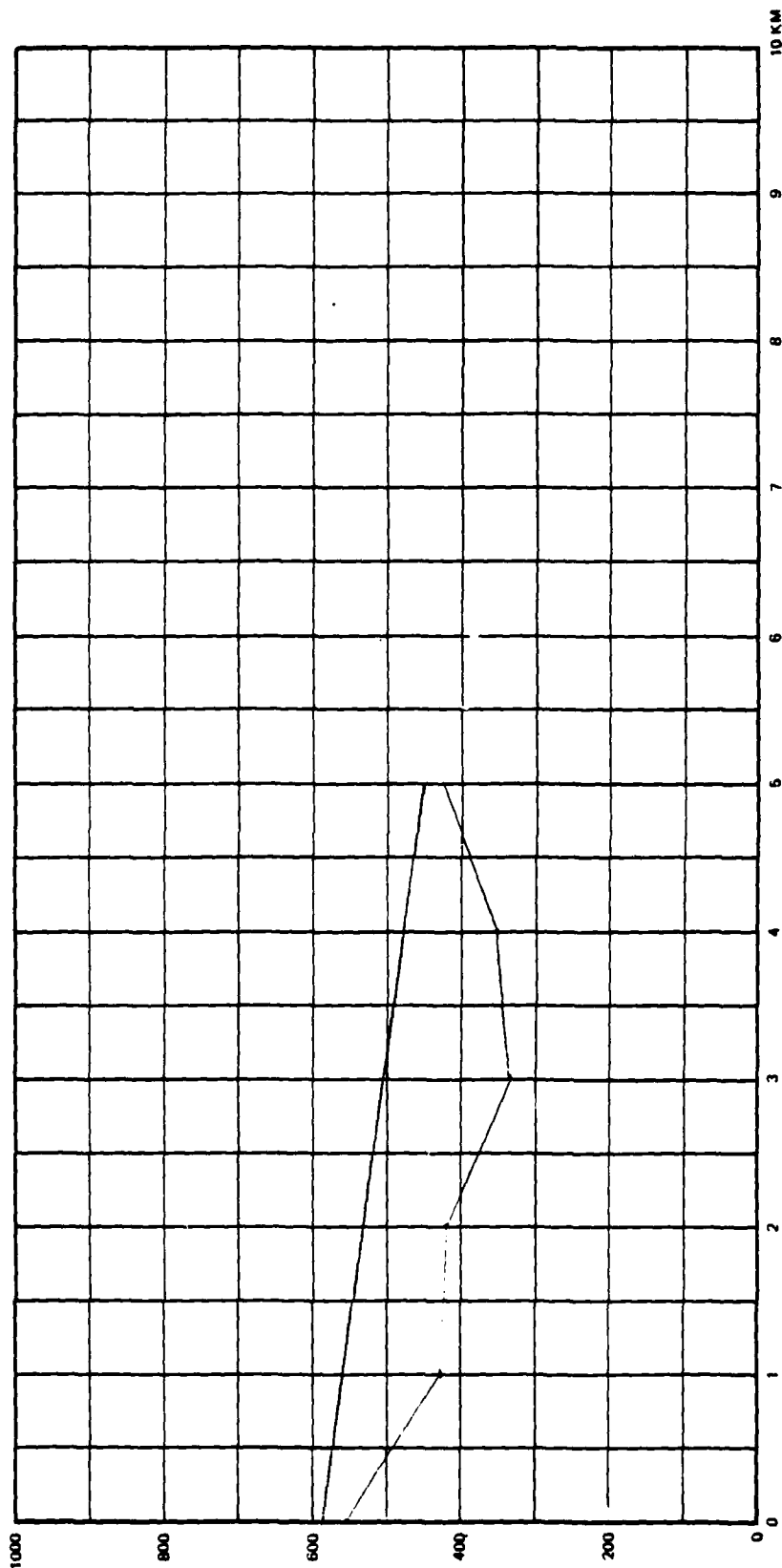


2nd repeater from Baumholder

STATION to Donnersberg
LATITUDE D 49 M 34 S 38
LONGITUDE D 07 M 34 S 50
ELEVATION 568 M
TOWER HEIGHT 20 M

1st repeater to

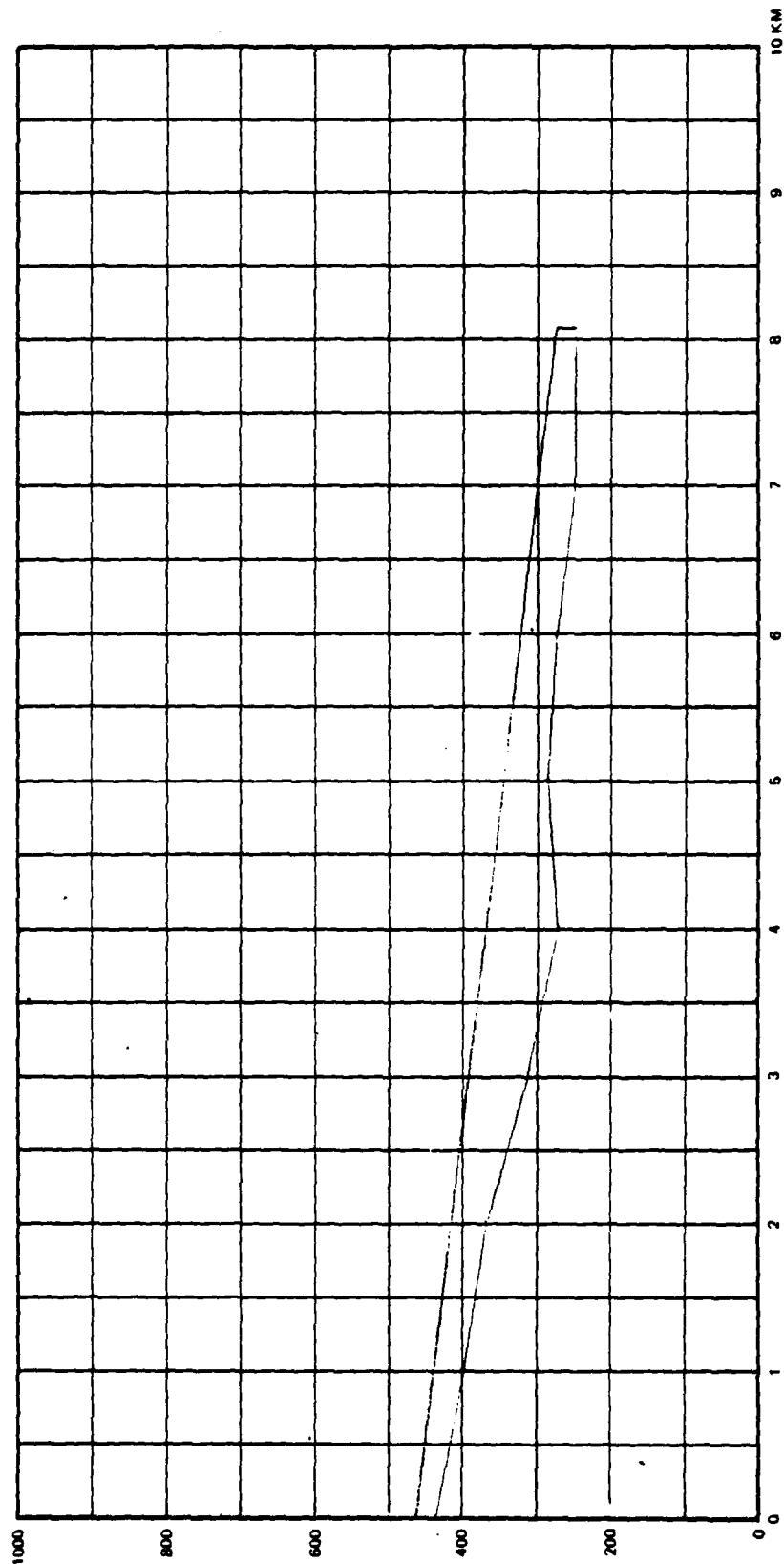
STATION Ramstein
LATITUDE D 49 M 31 S 55
LONGITUDE D 07 M 35 S 42
ELEVATION 434 M
TOWER HEIGHT 20 M



repeater from 2nd repeater
from Baumholder to Donnersberg

STATION Donnersberg
LATITUDE D 49 M 31 S 55
LONGITUDE D 07 M 35 S 42
ELEVATION 434 M
TOWER HEIGHT 20 M

STATION Ramstein
LATITUDE D 49 M 27 S 04
LONGITUDE D 07 M 35 S 04
ELEVATION 250 M
TOWER HEIGHT 20 M



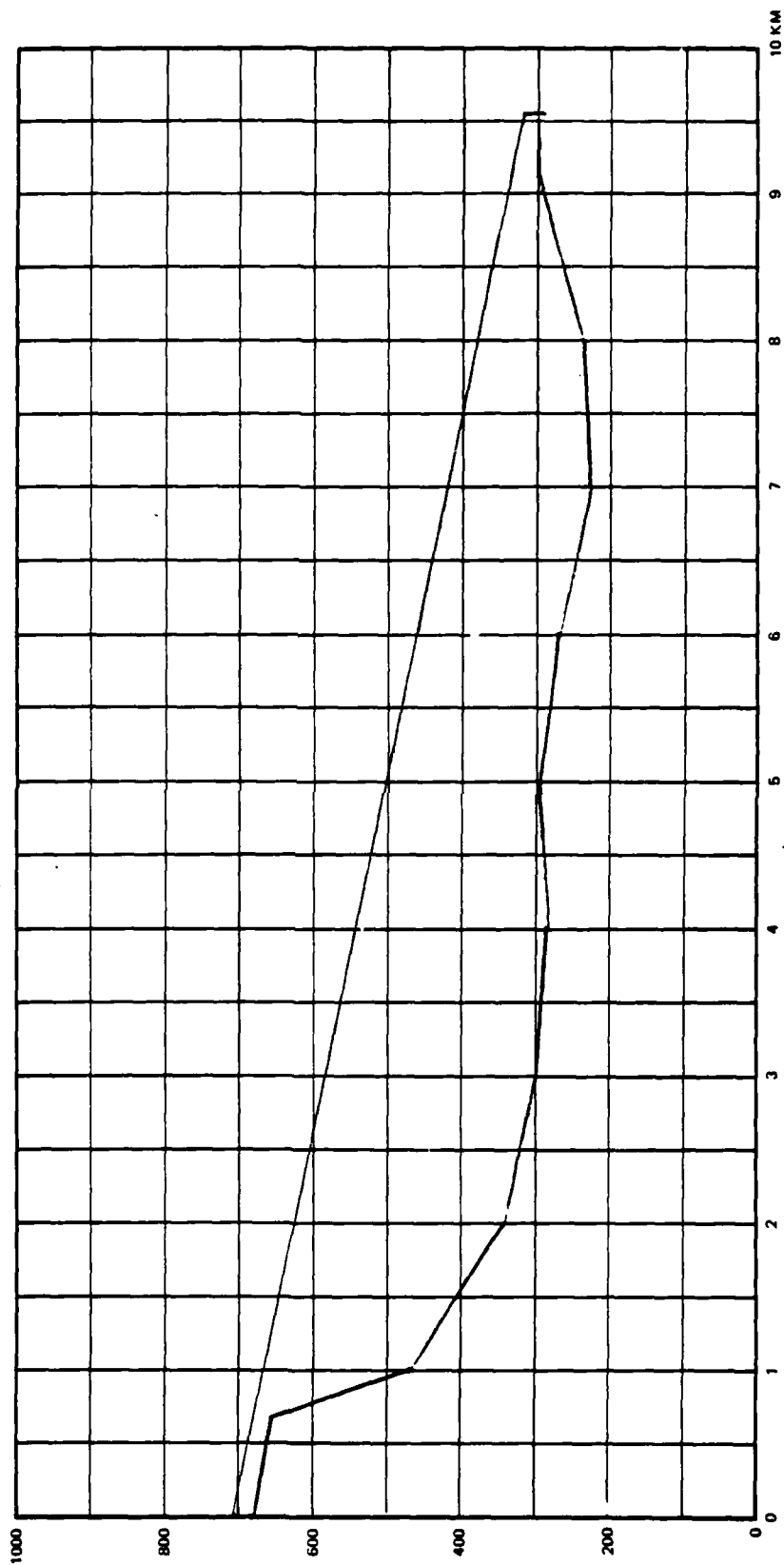
1st repeater to

STATION Worms

LATITUDE D 49 M 38 S 54
 LONGITUDE D 08 M 02 S 53
 ELEVATION 300 M
 TOWER HEIGHT 20 M

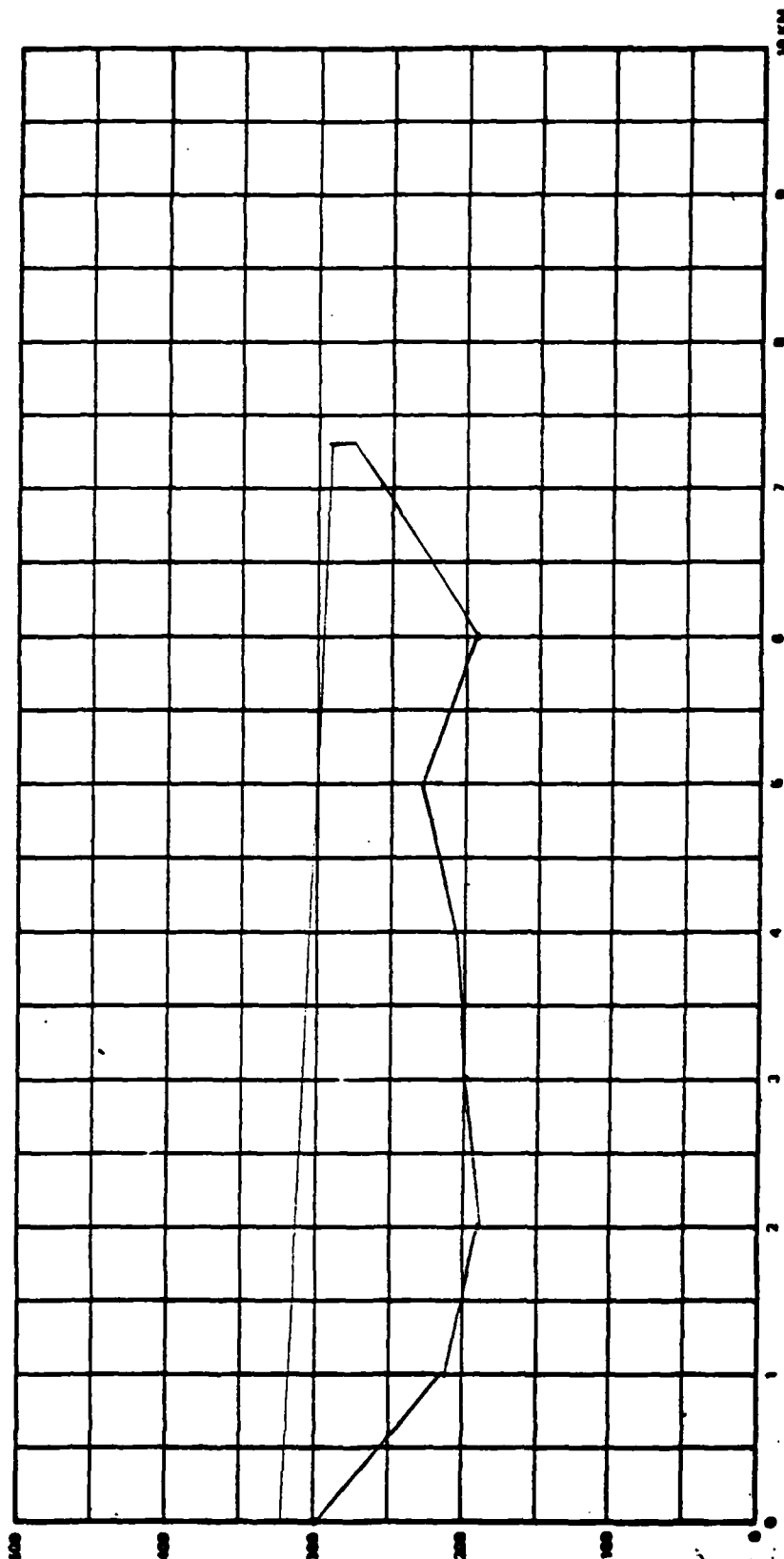
STATION Donnersberg

LATITUDE D 49 M 37 S 23
 LONGITUDE D 07 M 55 S 13
 ELEVATION 685 M
 TOWER HEIGHT 20 M



1st repeater from
 STATION Donnersberg
 LATITUDE D 49 M 38 S 54
 LONGITUDE D 08 M 02 S 53
 ELEVATION 300 M
 TOWER HEIGHT 20 M

2nd repeater to
 STATION Worms
 LATITUDE D 49 M 37 S 56
 LONGITUDE D 08 M 08 S 46
 ELEVATION 275 M
 TOWER HEIGHT 20 M



2nd repeater from

STATION Donnersberg

LATITUDE D 49 M 37 S 56

LONGITUDE D 08 M 08 S 46

ELEVATION 275 M

TOWER HEIGHT 20 M

3rd repeater to

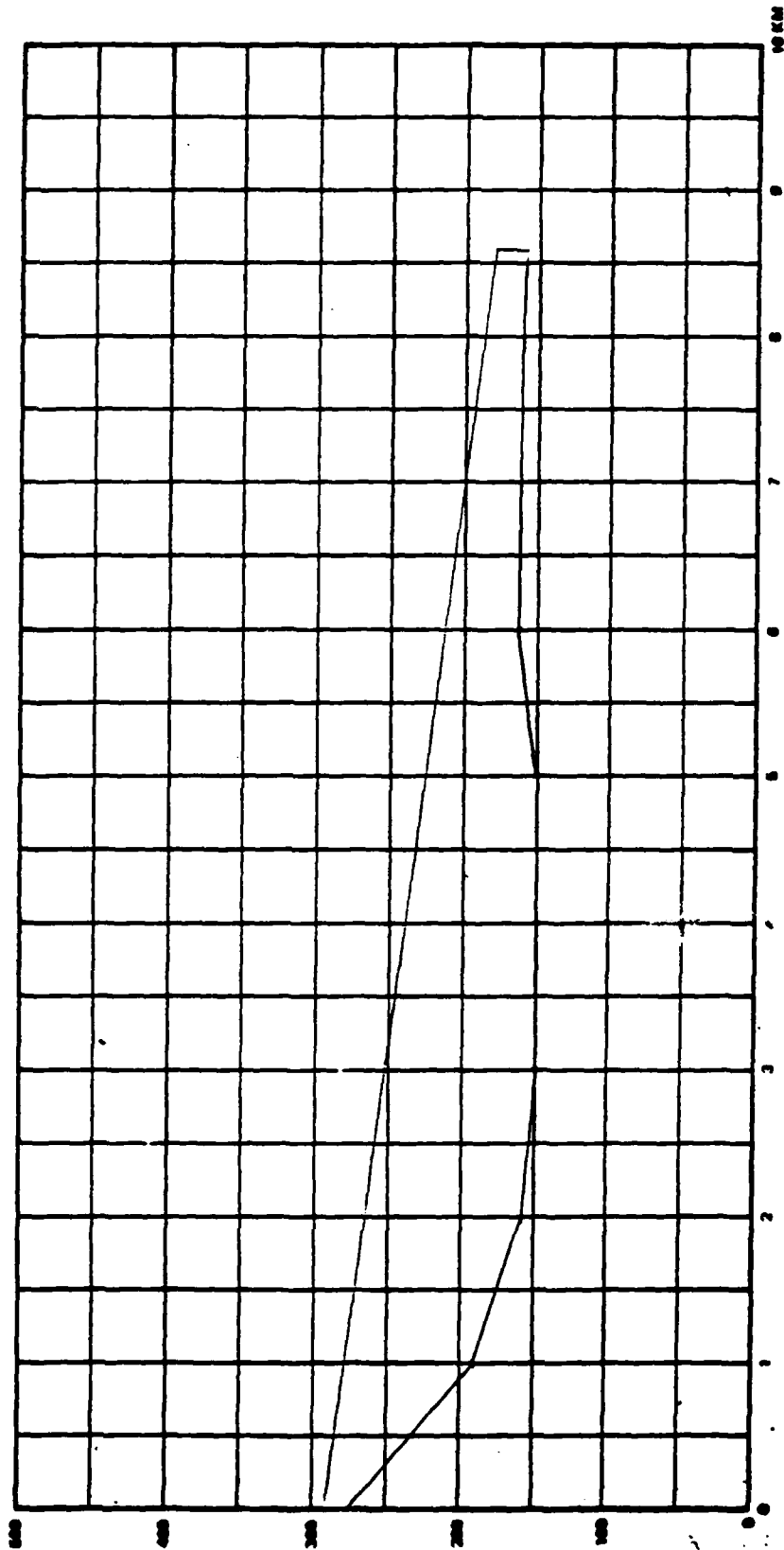
STATION Worms

LATITUDE D 49 M 38 S 58

LONGITUDE D 08 M 15 S 03

ELEVATION 160 M

TOWER HEIGHT 20 M



3rd repeater from

STATION Donnersberg

LATITUDE D 49 M 38 S 58

LONGITUDE D 08 M 15 S 03

ELEVATION 160 M

TOWER HEIGHT 20 M

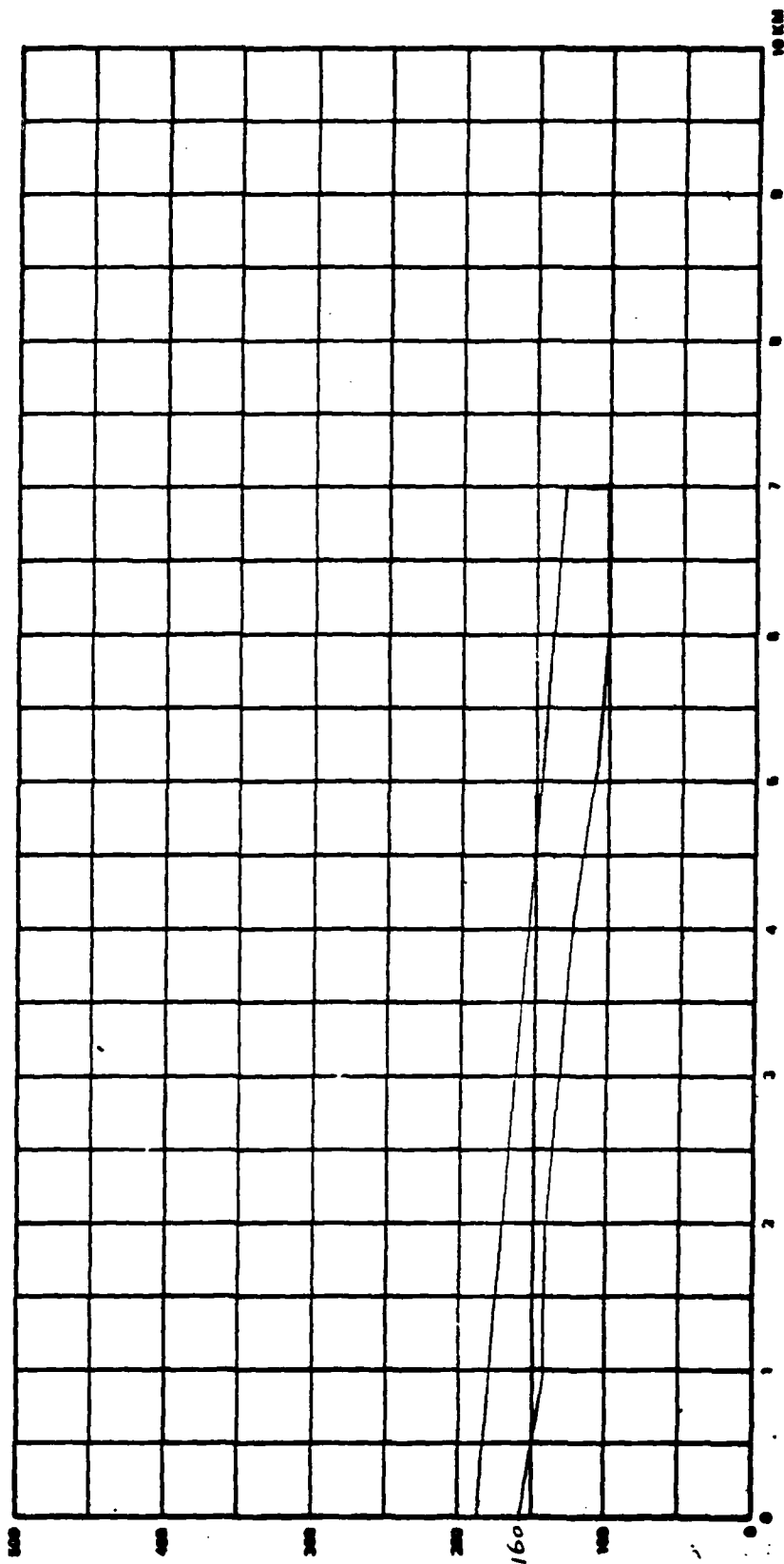
STATION Worms

LATITUDE D 49 M 38 S 28

LONGITUDE D 08 M 21 S 40

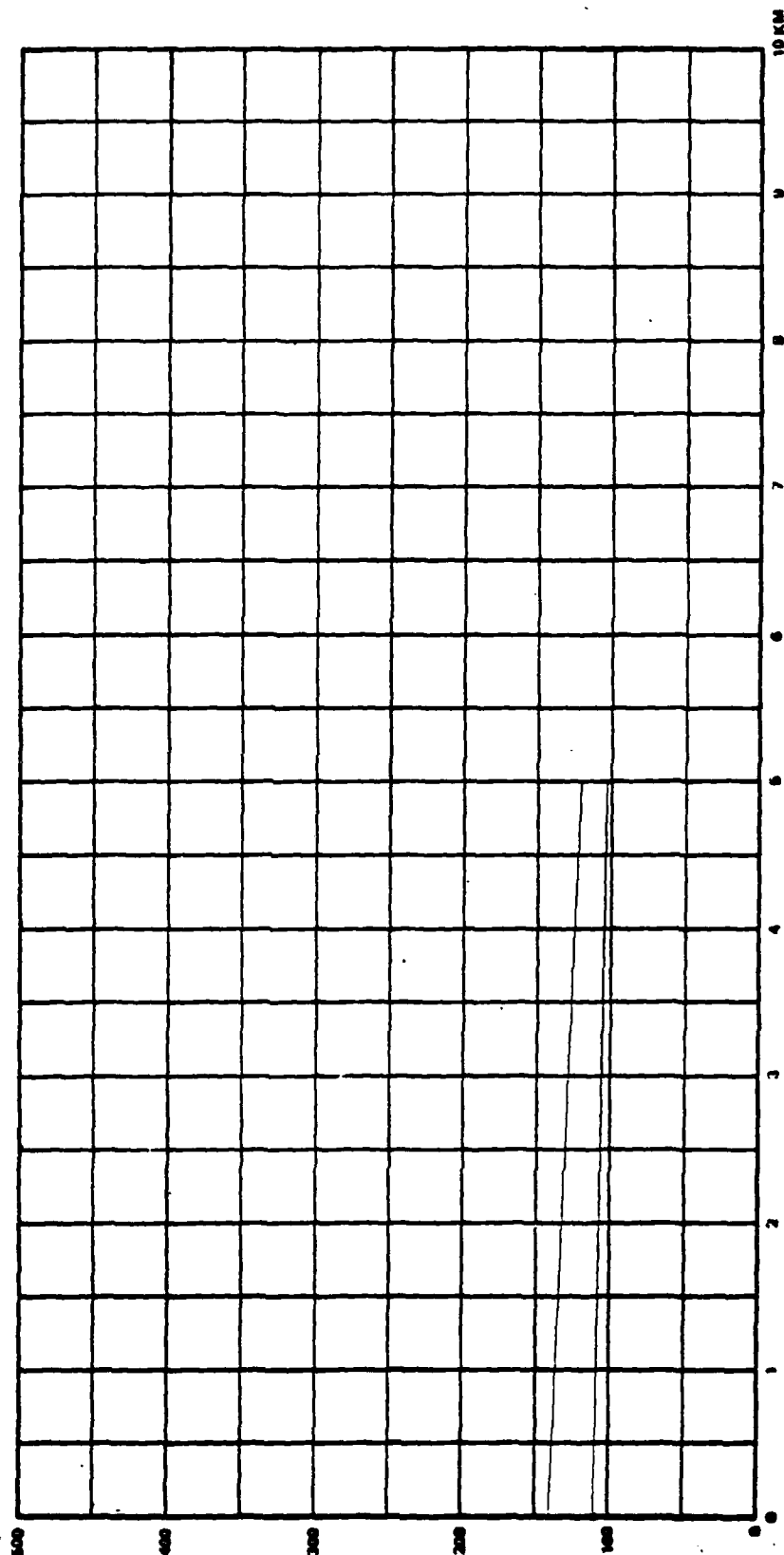
ELEVATION 101 M

TOWER HEIGHT 30 M



1st repeater from
 STATION Koenigstuhl to Karlsruhe
 LATITUDE D 49 M 38 S 50
 LONGITUDE D 08 M 38 S 50
 ELEVATION 103 M
 TOWER HEIGHT 20 M

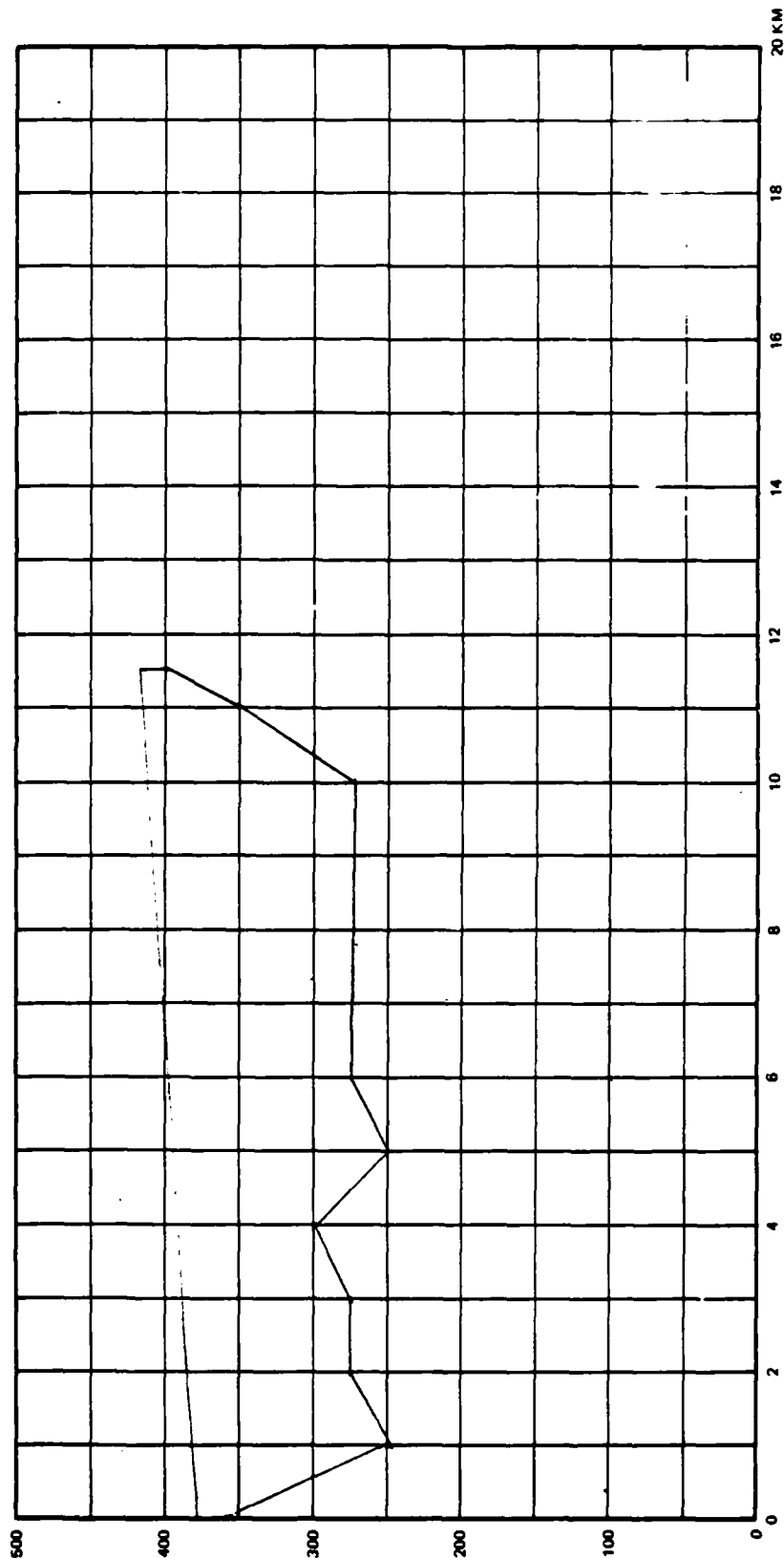
STATION Heidelberg
 LATITUDE D 49 M 23 S 12
 LONGITUDE D 08 M 41 S 00
 ELEVATION 113 M
 TOWER HEIGHT 30 M



Ist repeater to

STATION Bann
 LATITUDE D 49 M 25 S 00
 LONGITUDE D 07 M 40 S 40
 ELEVATION 400 M
 TOWER HEIGHT 20 M

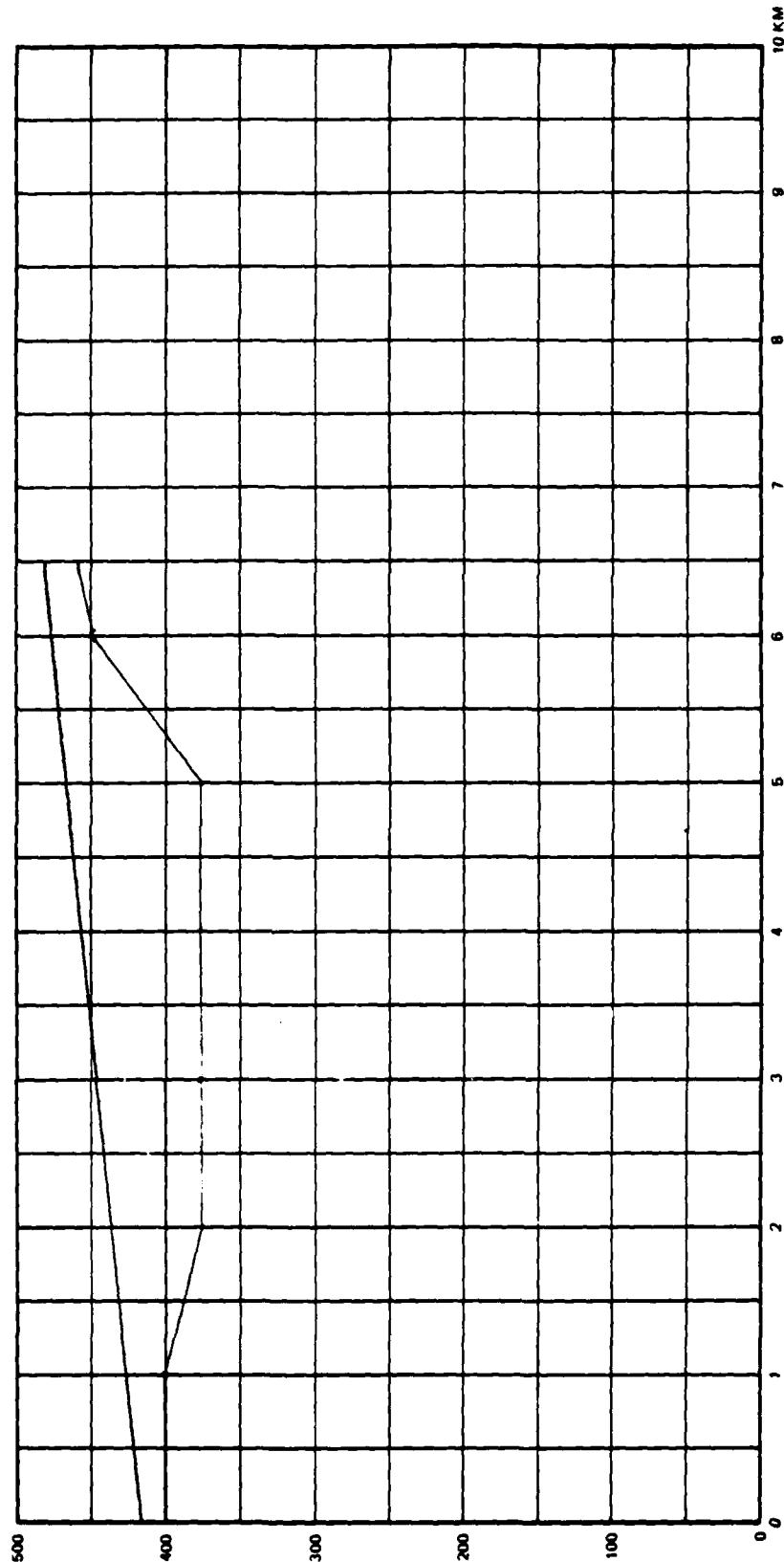
STATION Kaiserlantern
 LATITUDE D 49 M 26 S 40
 LONGITUDE D 07 M 50 S 30
 ELEVATION 360 M
 TOWER HEIGHT 20 M



1st repeater from

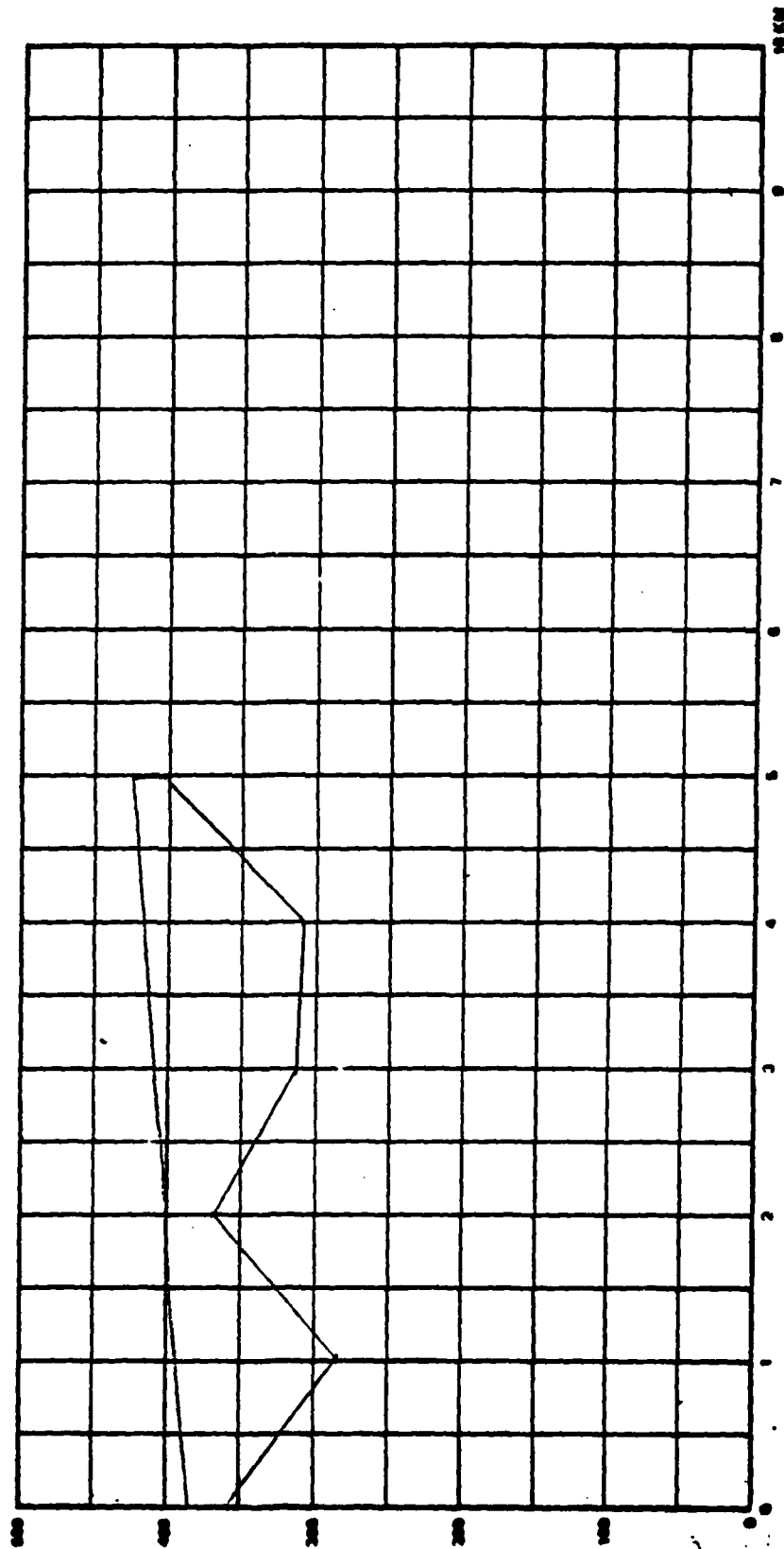
STATION Kaiserlantern
 LATITUDE D 49 M 25 S 00
 LONGITUDE D 07 M 40 S 40
 ELEVATION 400 M
 TOWER HEIGHT 20 M

STATION Bann
 LATITUDE D 49 M 23 S 55
 LONGITUDE D 07 M 35 S 18
 ELEVATION 460 M
 TOWER HEIGHT 20 M



1st repeater
 STATION Kaiserlantern
 LATITUDE D 49 M 25 S 15
 LONGITUDE D 07 M 41 S 04
 ELEVATION 402 M
 TOWER HEIGHT 20 M

STATION Kindsbach
 LATITUDE D 49 M 25 S 00
 LONGITUDE D 07 M 37 S 00
 ELEVATION 362 M
 TOWER HEIGHT 20 M

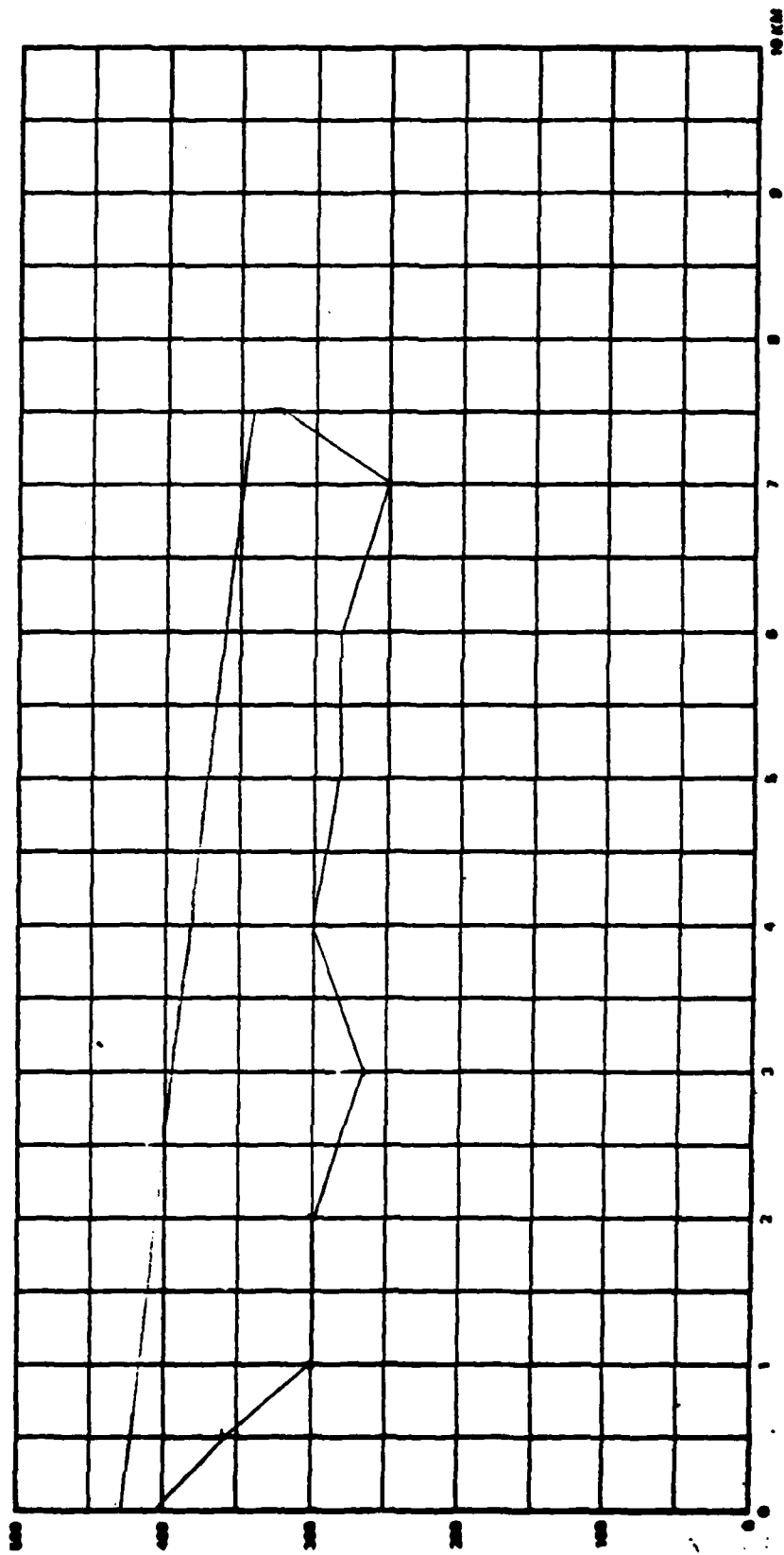


1st repeater from

STATION Kindsbach
LATITUDE D 49 M 25 S 15
LONGITUDE D 07 M 41 S 04
ELEVATION 402 M
TOWER HEIGHT 20 M

2nd repeater to

STATION Kaiserslautern
LATITUDE D 49 M 25 S 22
LONGITUDE D 07 M 47 S 10
ELEVATION 323 M
TOWER HEIGHT 20 M



2nd repeater to

STATION Kindsbach

LATITUDE D 49 M 25 S 22

LONGITUDE D 07 M 47 S 10

ELEVATION 323 M

TOWER HEIGHT 20 M

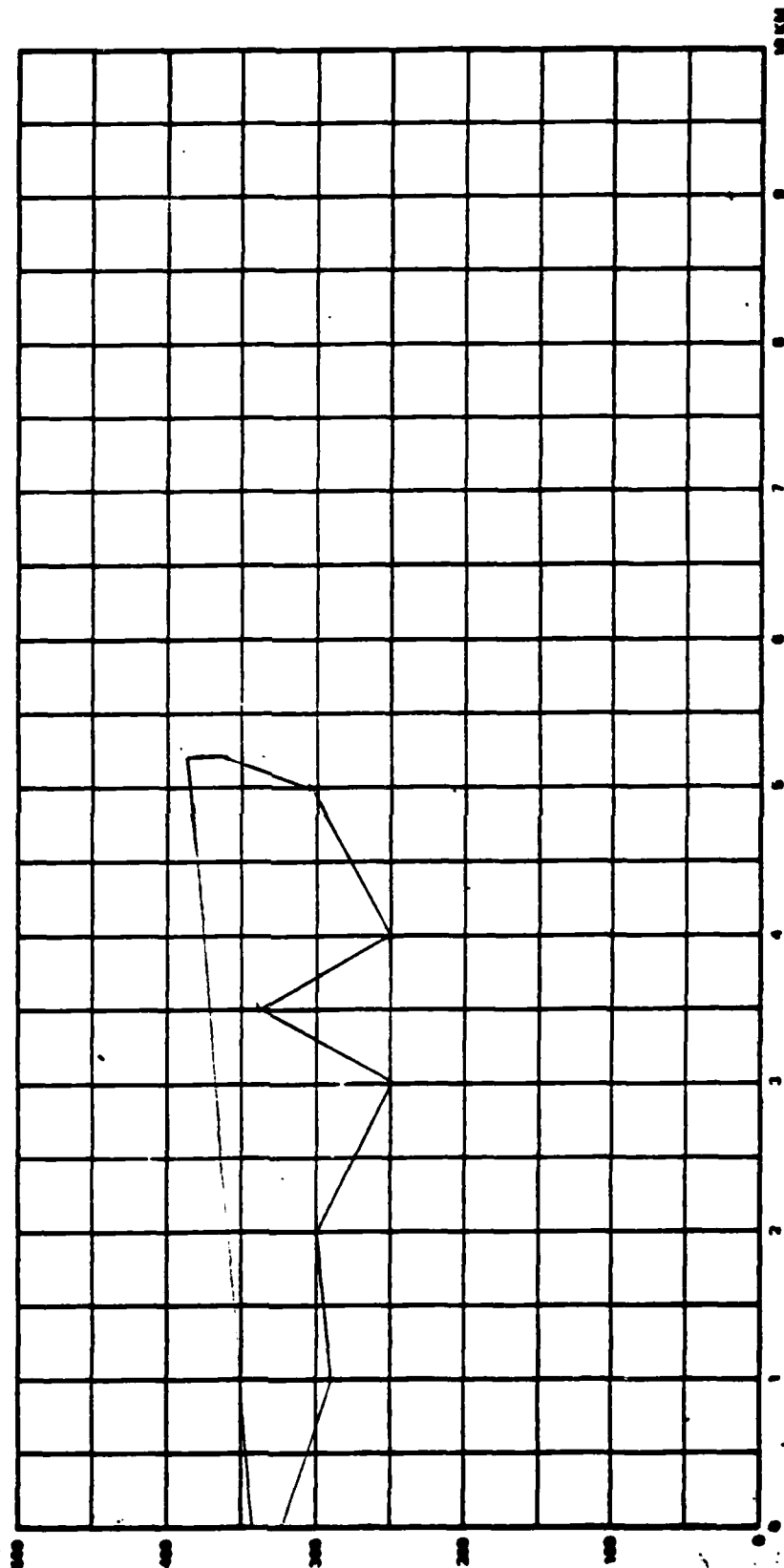
STATION Kaiserslautern

LATITUDE D 49 M 26 S 40

LONGITUDE D 07 M 50 S 50

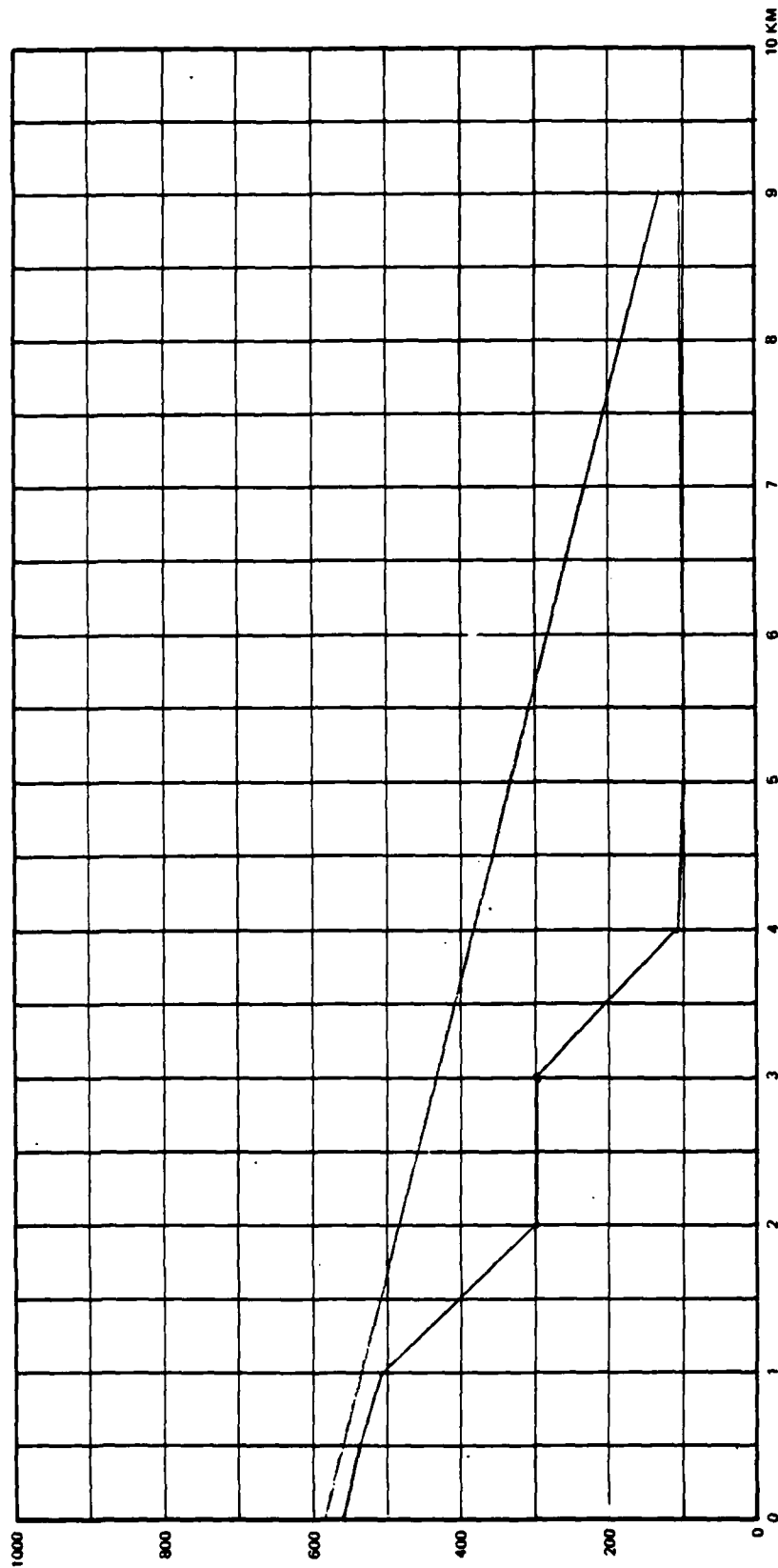
ELEVATION 366 M

TOWER HEIGHT 20 M



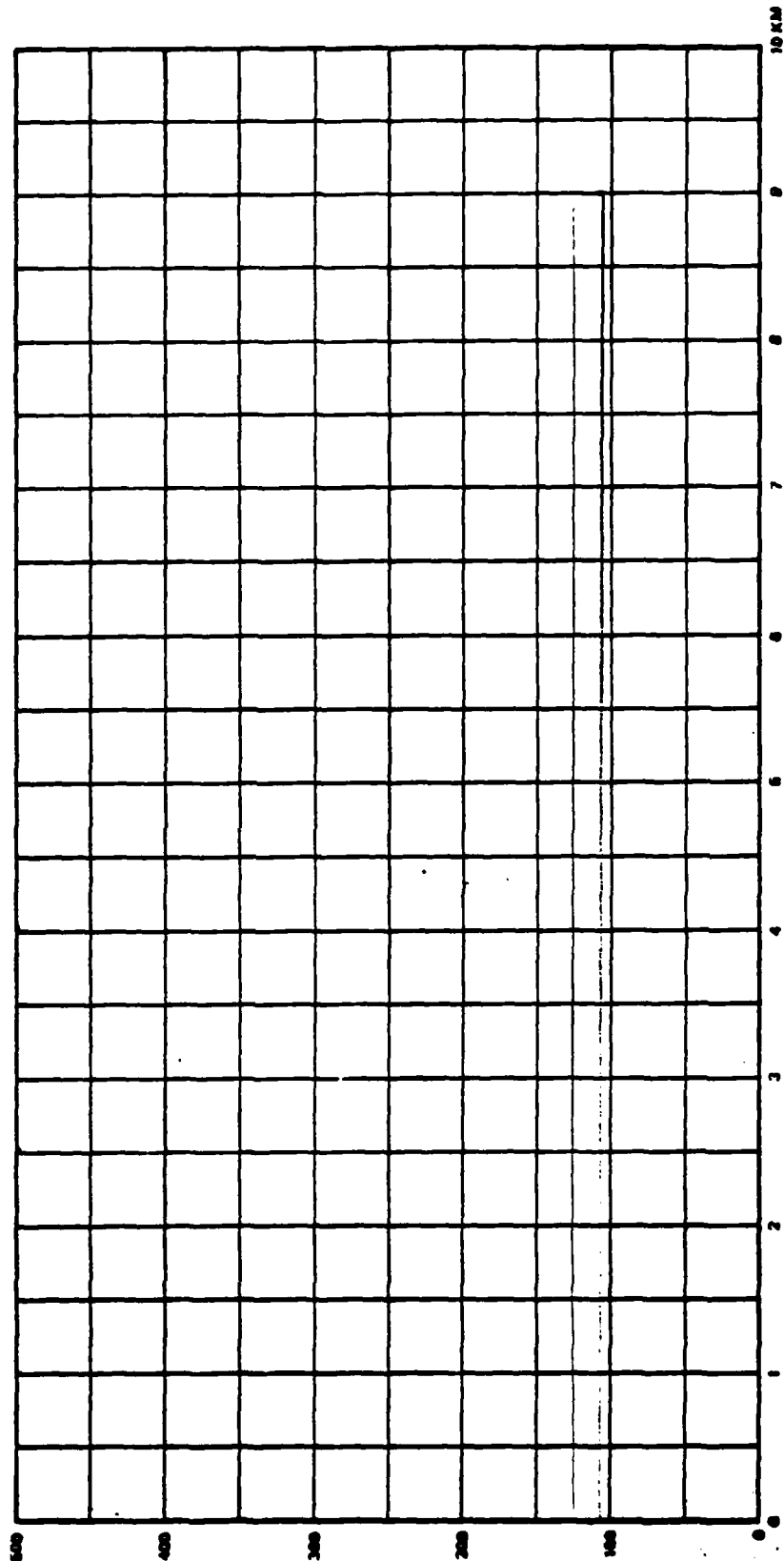
1st repeater to
 STATION Karlsruhe
 LATITUDE D 49 M 22 S 08
 LONGITUDE D 08 M 37 S 18
 ELEVATION 103 M
 TOWER HEIGHT 20 M

STATION Koenigstuhl
 LATITUDE D 49 M 24 S 11
 LONGITUDE D 08 M 44 S 02
 ELEVATION 560 M
 TOWER HEIGHT 20 M



1st repeater from
 STATION Koenigstuhl
 LATITUDE D 49° N 22' S 08
 LONGITUDE D 08° M 37' S 18
 ELEVATION 103 M
 TOWER HEIGHT 20 M

2nd repeater to
 STATION Karlsruhe
 LATITUDE D 49° M 17' S 28
 LONGITUDE D 08° M 35' S 10
 ELEVATION 103 M
 TOWER HEIGHT 20 M

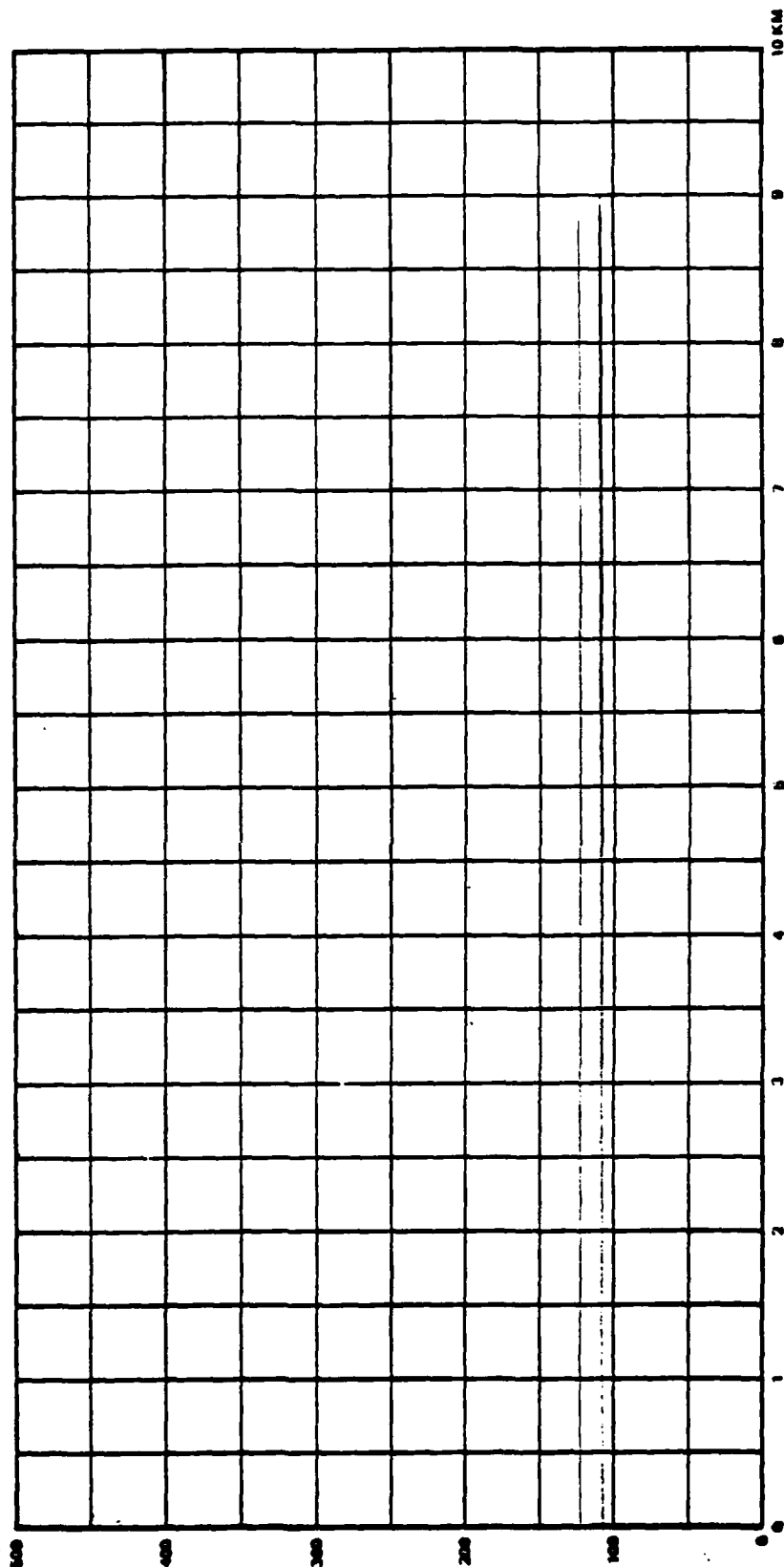


2nd repeater from

STATION Koenigstuhl
LATITUDE D 49° M 17' S 28
LONGITUDE D 08° M 35' S 10
ELEVATION 103 M
TOWER HEIGHT 20 M

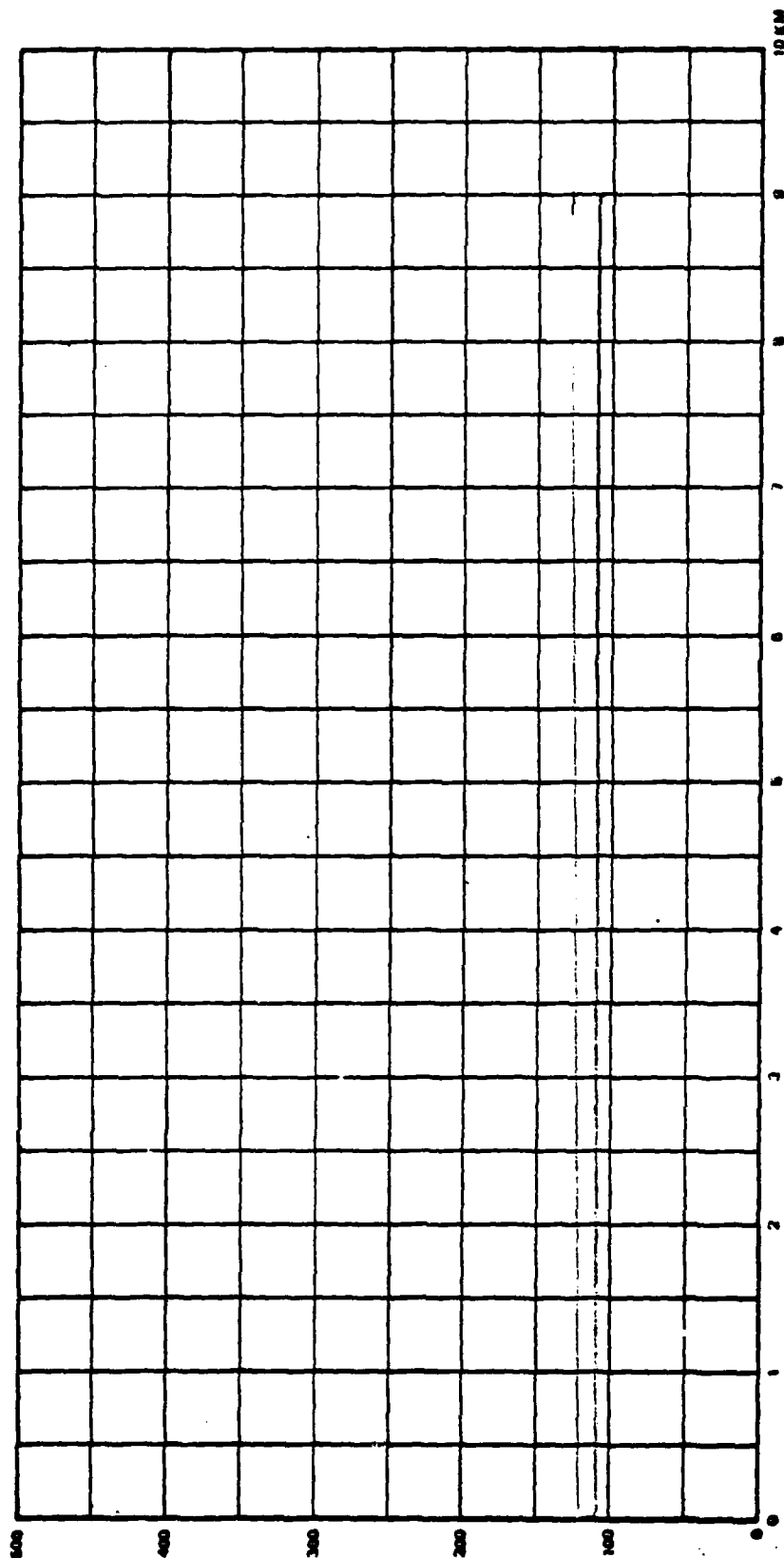
3rd repeater to

STATION Karlsruhe
LATITUDE D 49° M 12' S 56
LONGITUDE D 08° M 32' S 48
ELEVATION 105 M
TOWER HEIGHT 20 M



3rd repeater from
 STATION Koenigstuhl
 LATITUDE D 49 M 12 S 56
 LONGITUDE D 08 M 32 S 48
 ELEVATION 105 M
 TOWER HEIGHT 20 M

4th repeater to
 STATION Karlsruhe
 LATITUDE D 49 M 08 S 34
 LONGITUDE D 08 M 29 S 38
 ELEVATION 108 M
 TOWER HEIGHT 20 M

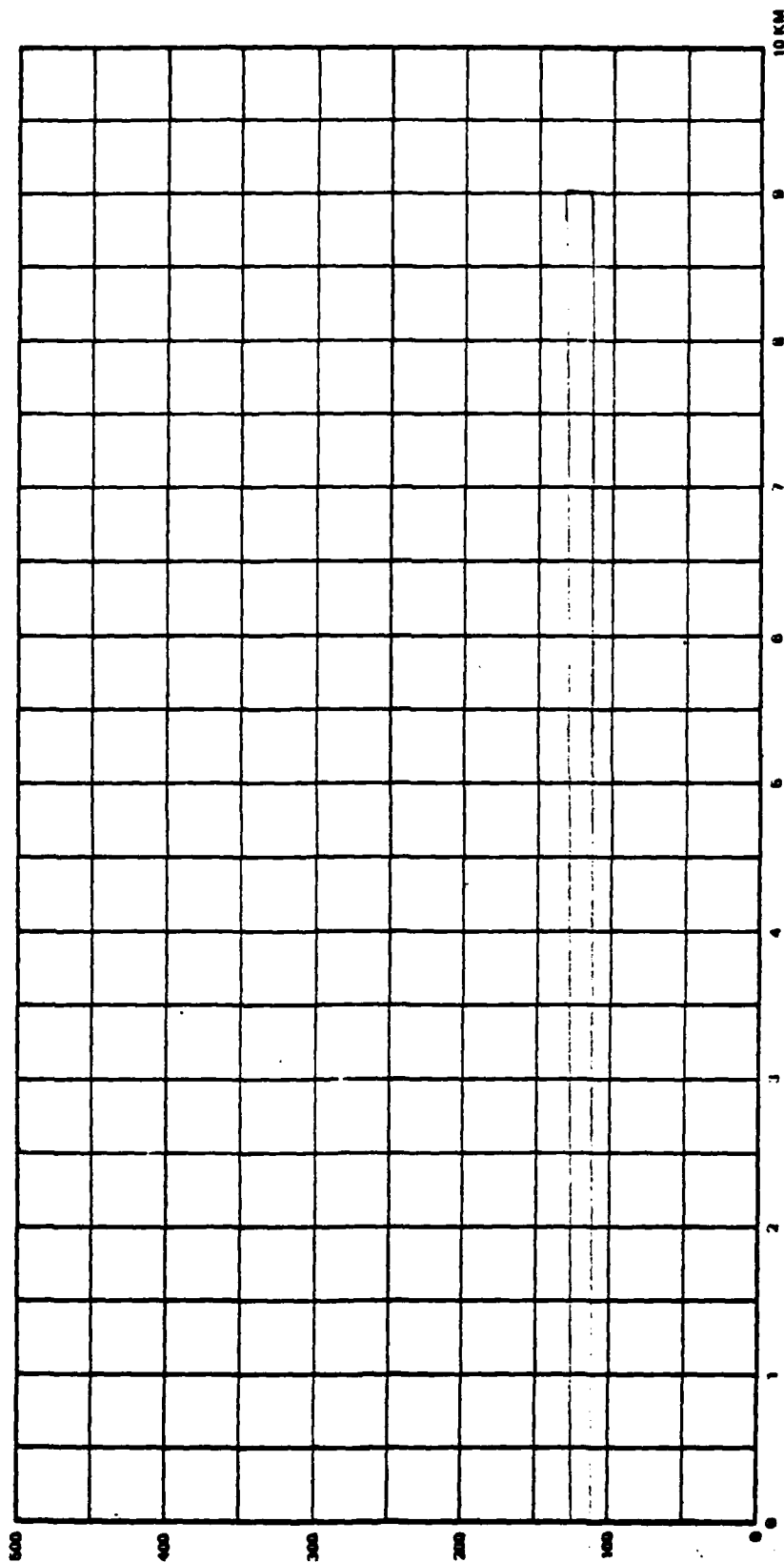


4th repeater from

STATION Koenigstuhl
LATITUDE D 49 M 08 S 34
LONGITUDE D 08 M 29 S 38
ELEVATION 108 M
TOWER HEIGHT 20 M

5th repeater to

STATION Karlsruhe
LATITUDE D 49 M 04 S 08
LONGITUDE D 08 M 26 S 43
ELEVATION 112 M
TOWER HEIGHT 20 M



5th repeater from

STATION Koenigstuhl

LATITUDE D 49 M 04 S 08

LONGITUDE D 08 M 26 S 43

ELEVATION 112 M

TOWER HEIGHT 20 M

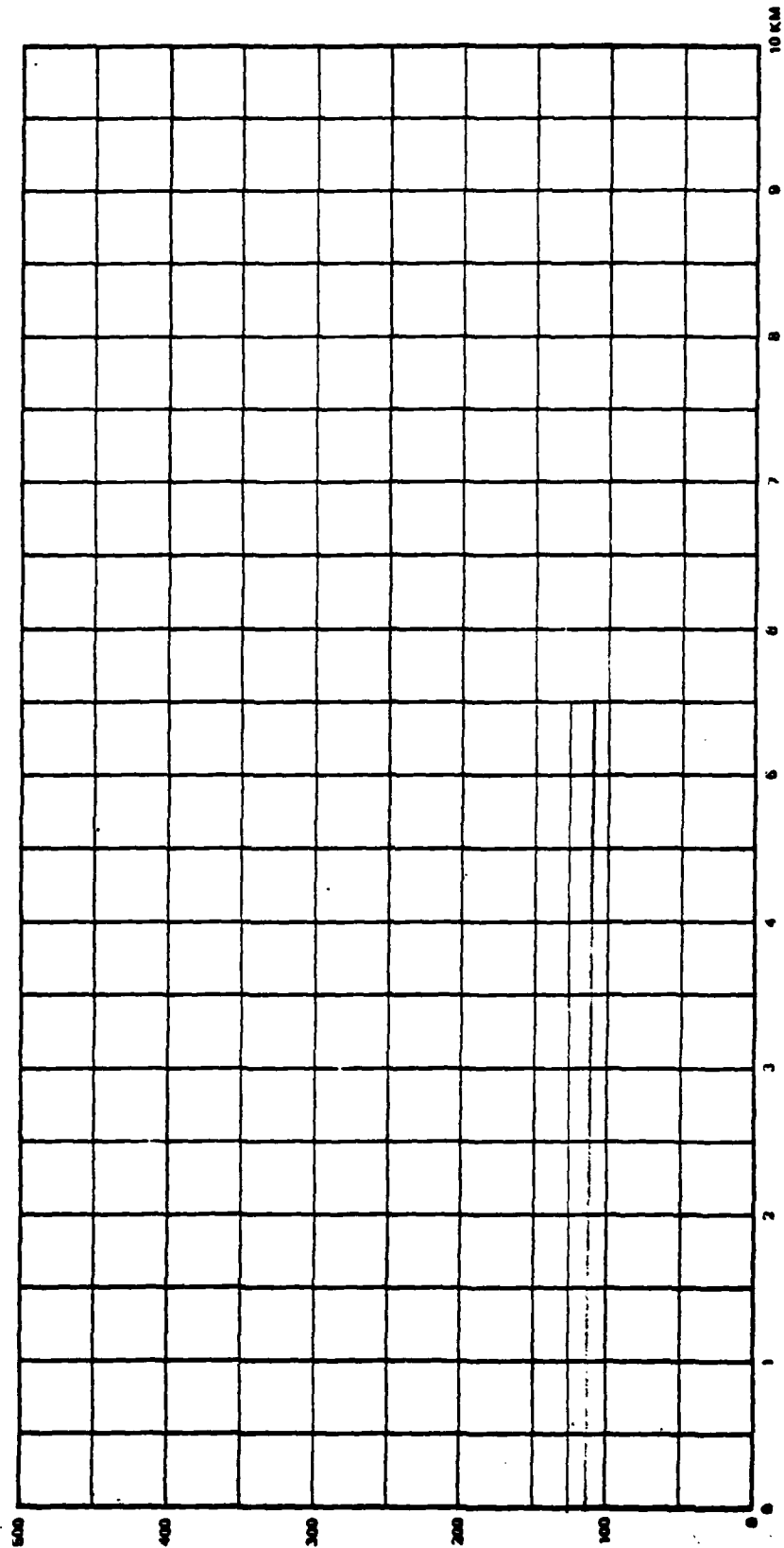
STATION Karlsruhe

LATITUDE D 49 M 01 S 59

LONGITUDE D 08 M 23 S 39

ELEVATION 112 M

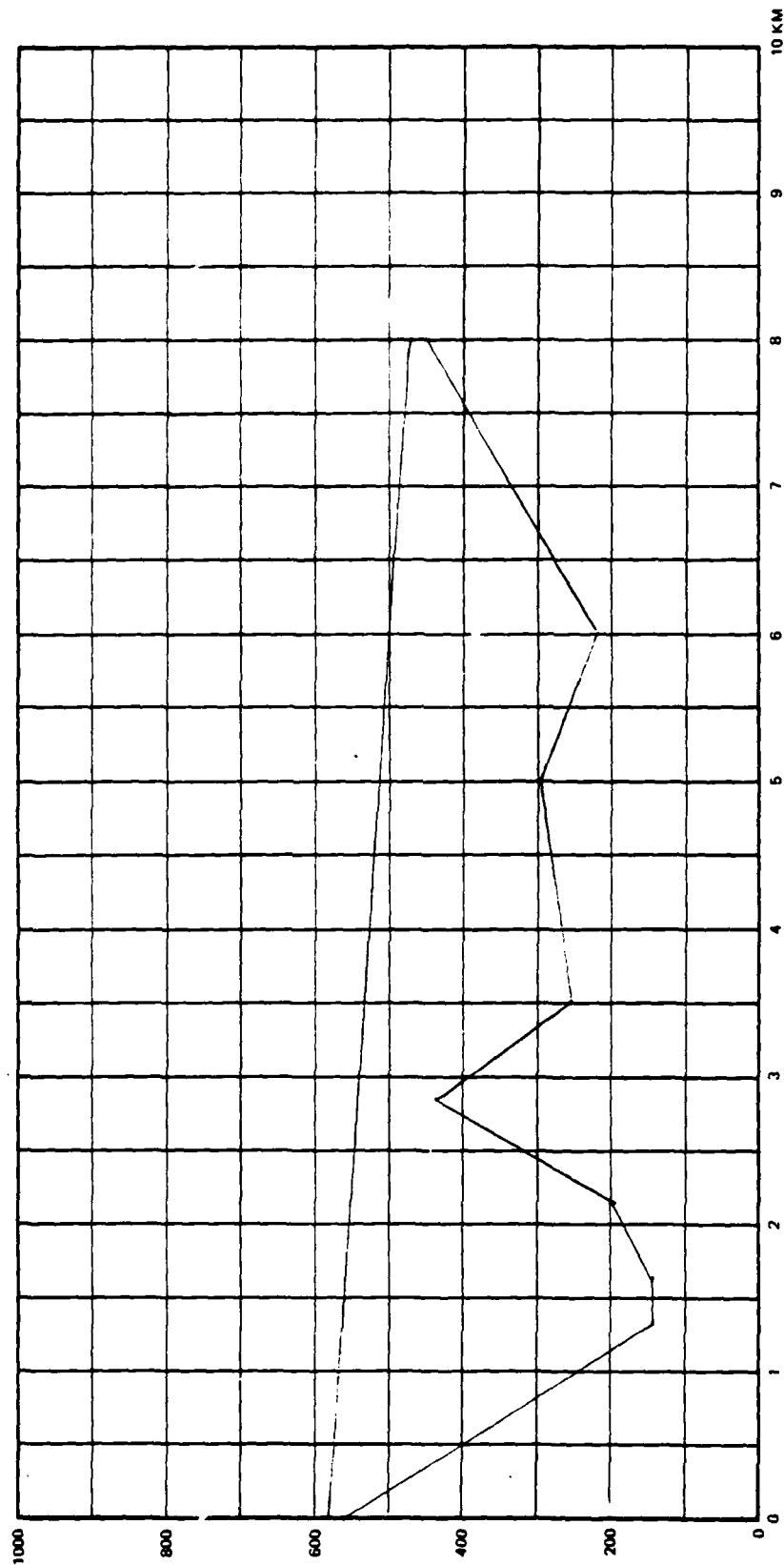
TOWER HEIGHT 20 M



1st repeater to

STATION	Mannheim
LATITUDE	D 49 M 28 S 15
LONGITUDE	D 08 M 40 S 50
ELEVATION	449 M
TOWER HEIGHT	20 M

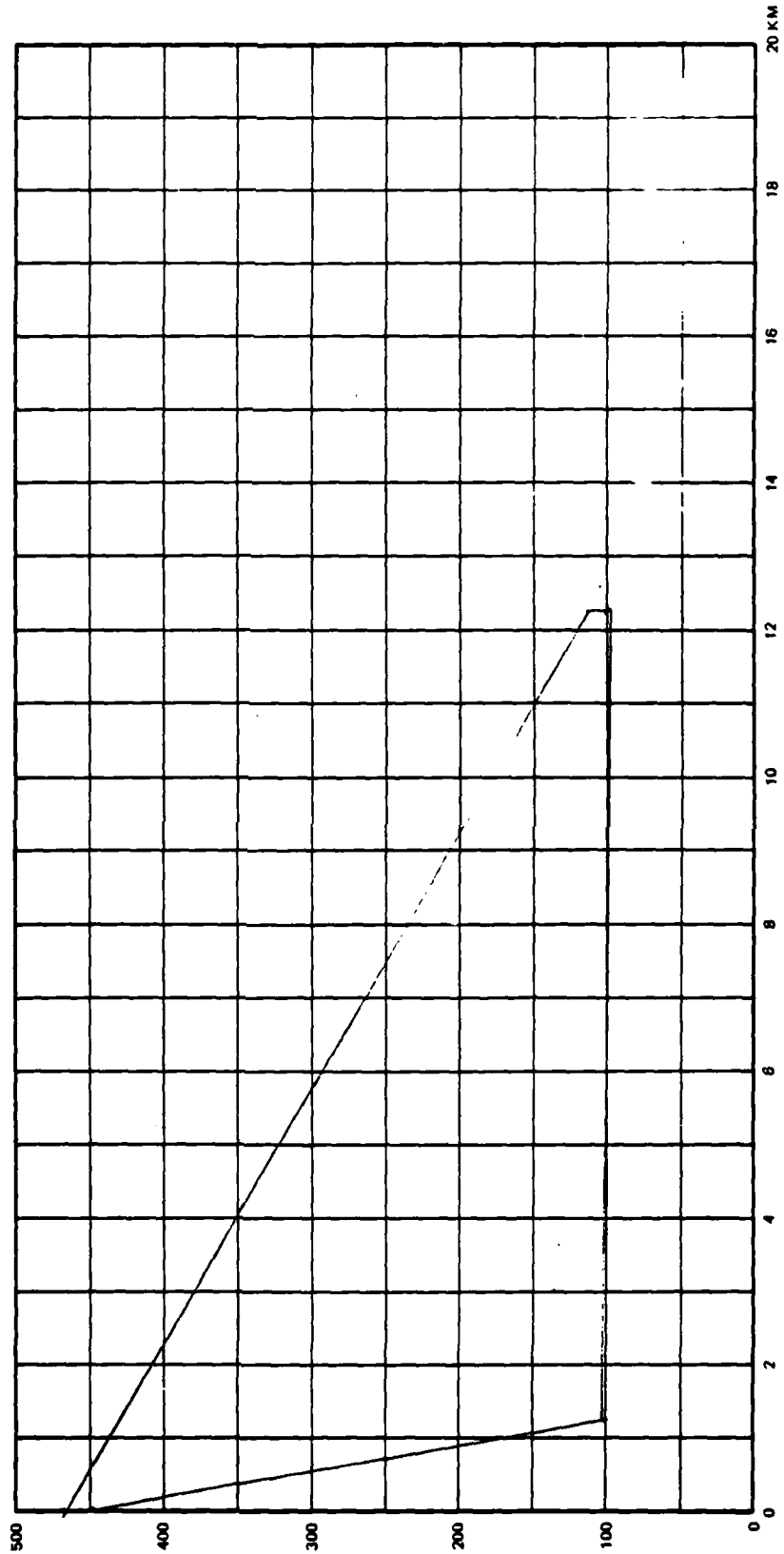
STATION	Koenigsstuhl
LATITUDE	D 49 M 24 S 11
LONGITUDE	D 08 M 44 S 02
ELEVATION	560 M
TOWER HEIGHT	20 M



1st repeater from

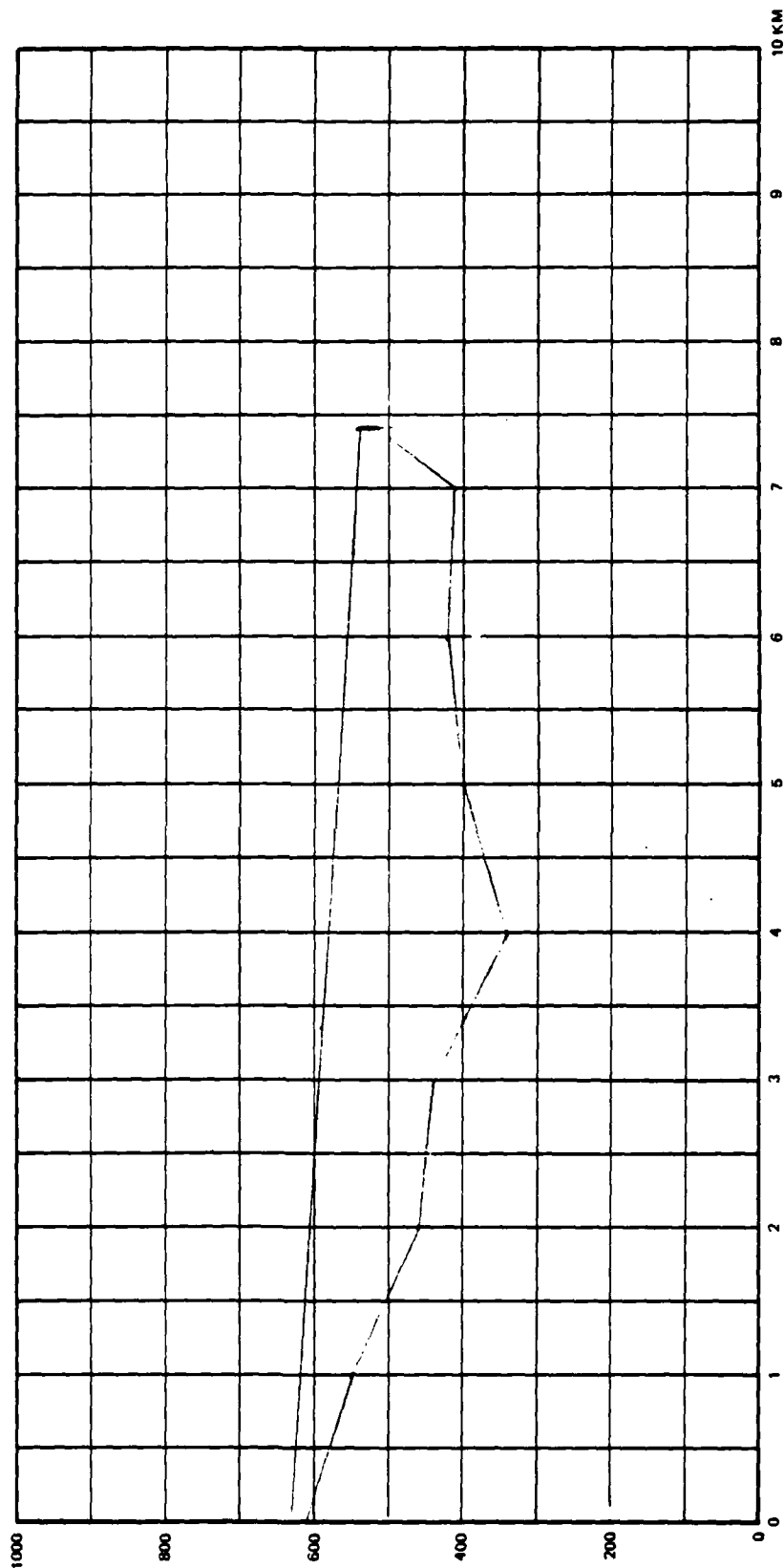
STATION Koenigstuhl
 LATITUDE D 49 M 28 S 15
 LONGITUDE D 08 M 40 S 50
 ELEVATION 449 M
 TOWER HEIGHT 20 M

STATION Mannheim
 LATITUDE D 49 M 30 S 59
 LONGITUDE D 08 M 31 S 48
 ELEVATION 97 M
 TOWER HEIGHT 20 M



1st repeater to
 STATION Kaiserlantern
 LATITUDE D 49 M 22 S 00
 LONGITUDE D 07 M 51 S 55
 ELEVATION 516 M
 TOWER HEIGHT 20 M

STATION Langerkopf
 LATITUDE D 49 M 18 S 04
 LONGITUDE D 07 M 50 S 39
 ELEVATION 608 M
 TOWER HEIGHT 20 M



1st repeater from

STATION Langerkopf

LATITUDE D 49 M 22 S 00

LONGITUDE D 07 M 51 S 55

ELEVATION 516 M

TOWER HEIGHT 20 M

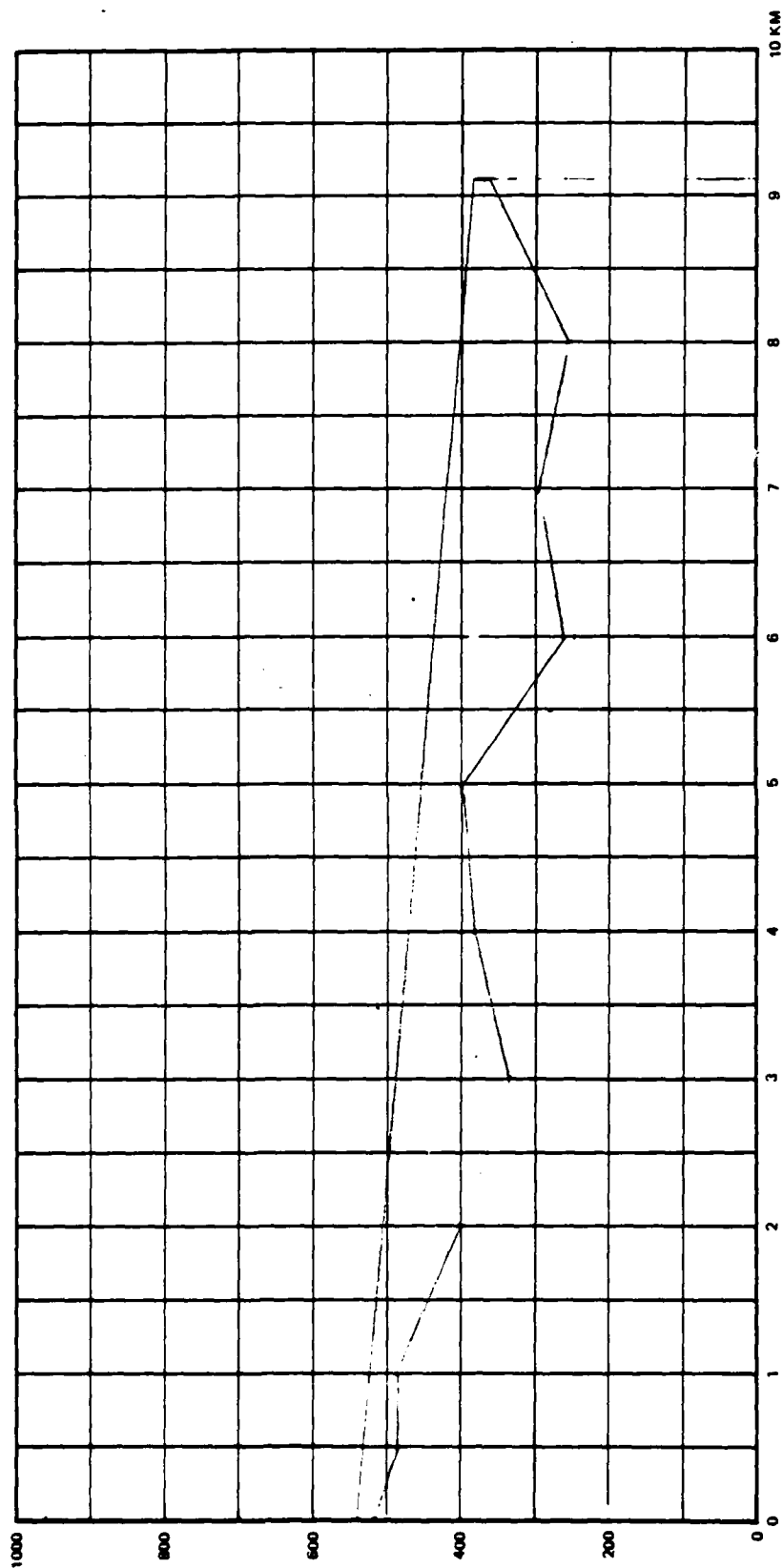
STATION Kaiserslantern

LATITUDE D 49 M 26 S 40

LONGITUDE D 07 M 50 S 50

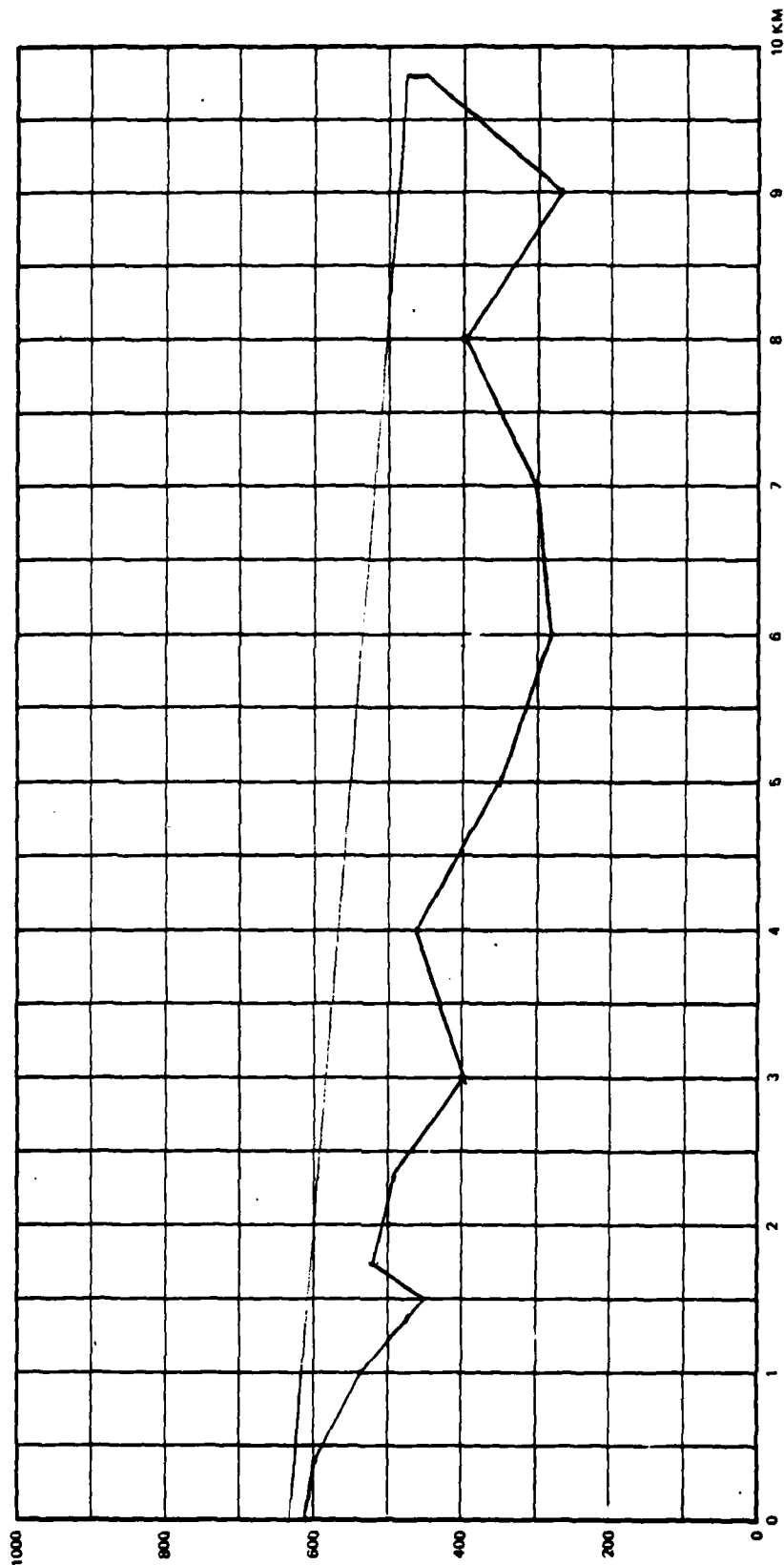
ELEVATION 366 M

TOWER HEIGHT 20 M



1st repeater to
 STATION Schwetzingen
 LATITUDE D 49 M 19 S 31
 LONGITUDE D 07 M 58 S 30
 ELEVATION 456 M
 TOWER HEIGHT 20 M

STATION Langerkopf
 LATITUDE D 49 M 18 S 04
 LONGITUDE D 07 M 50 S 39
 ELEVATION 608 M
 TOWER HEIGHT 20 M



1st repeater from

STATION Langerkopf

LATITUDE D 49 M 19 S 31

LONGITUDE D 07 M 58 S 30

ELEVATION 456 M

TOWER HEIGHT 20 M

2nd repeater to

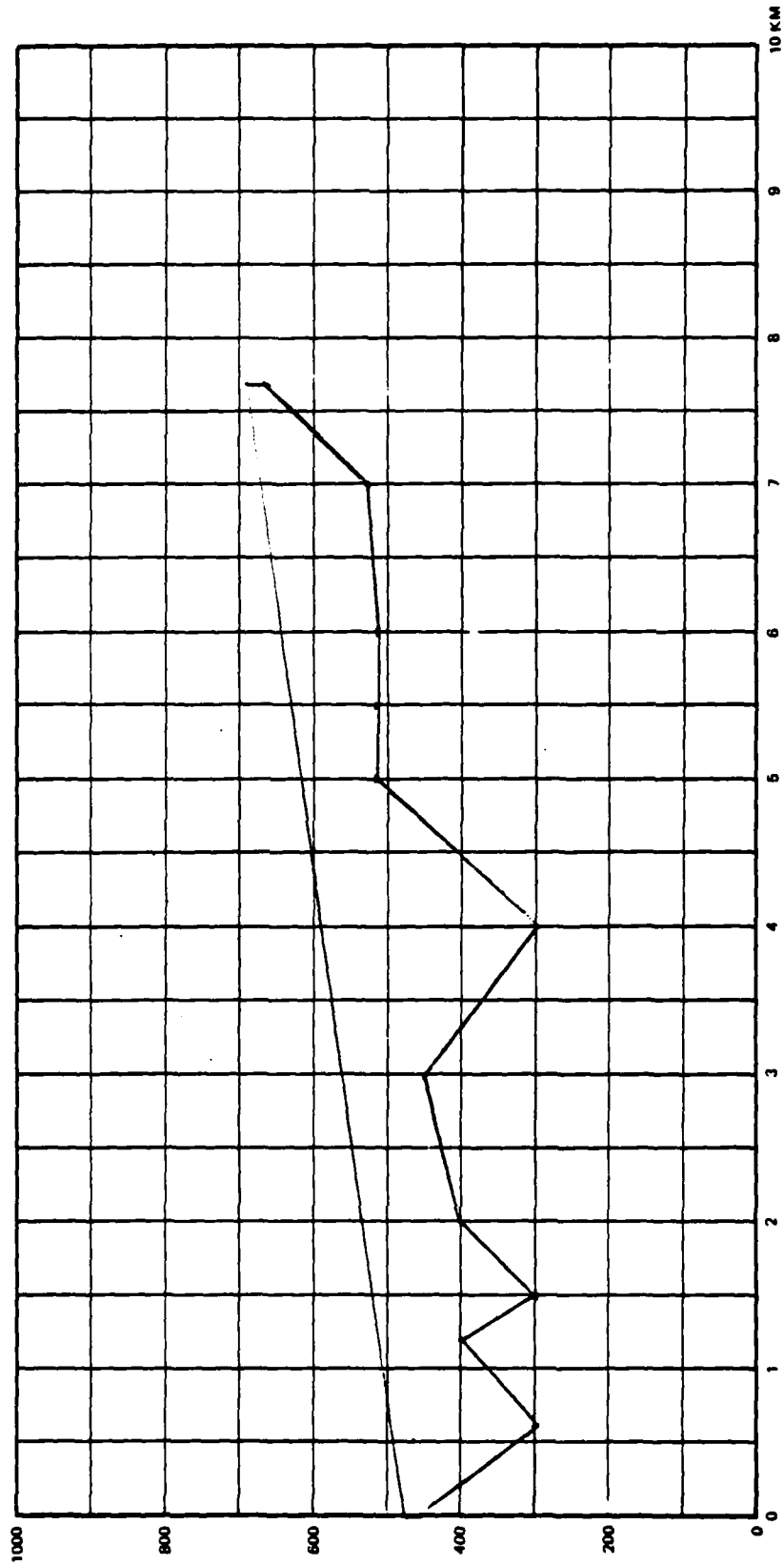
STATION Schwetzingen

LATITUDE D 49 M 19 S 13

LONGITUDE D 08 M 04 S 53

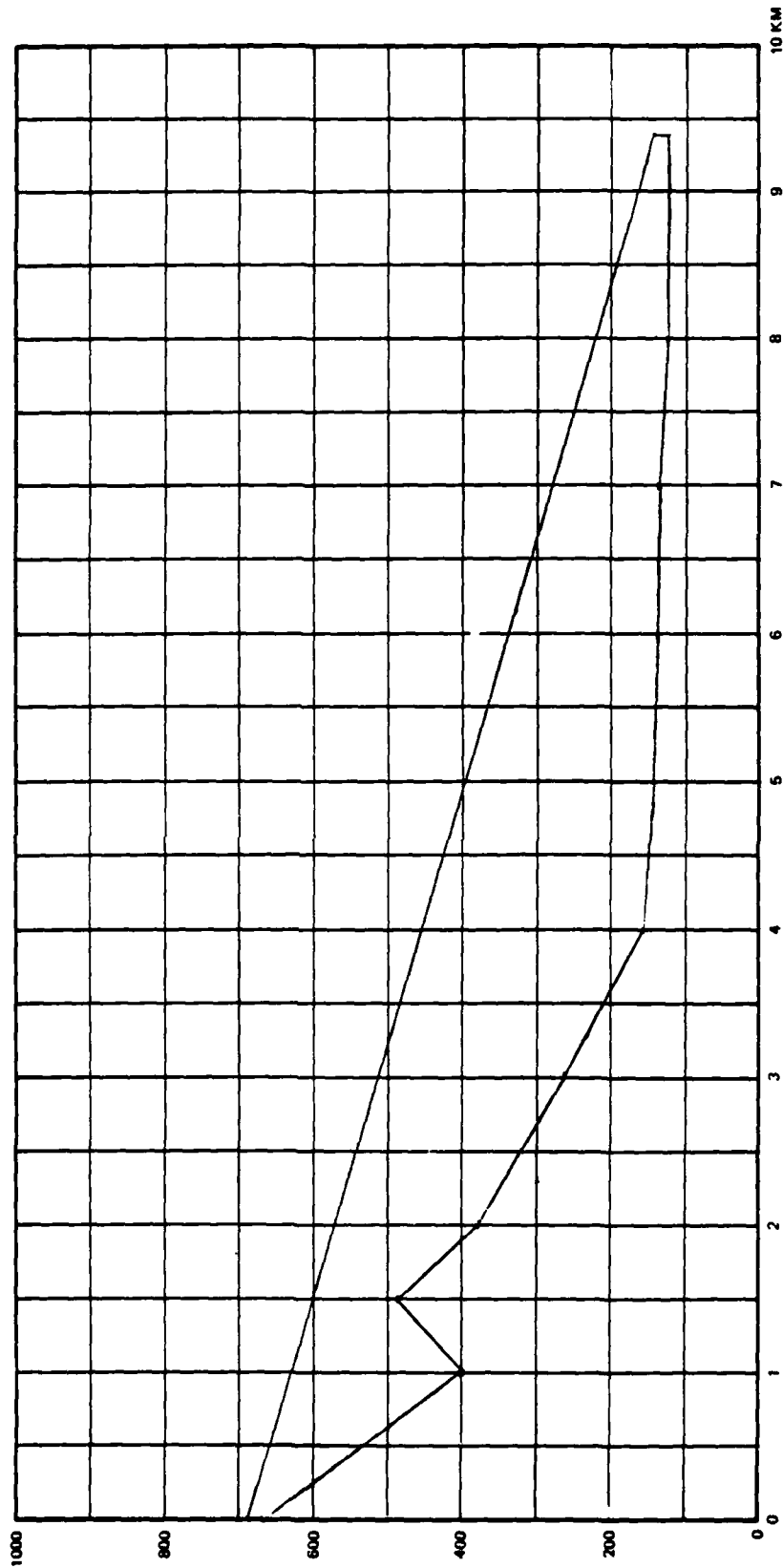
ELEVATION 673 M

TOWER HEIGHT 20 M



2nd repeater from
 STATION Langerkopf
 LATITUDE D 49 M 19 S 13
 LONGITUDE D 08 M 04 S 53
 ELEVATION 673 M
 TOWER HEIGHT 20 M

3rd repeater to
 STATION Schwetzingen
 LATITUDE D 49 M 20 S 52
 LONGITUDE D 08 M 12 S 20
 ELEVATION 125 M
 TOWER HEIGHT 20 M

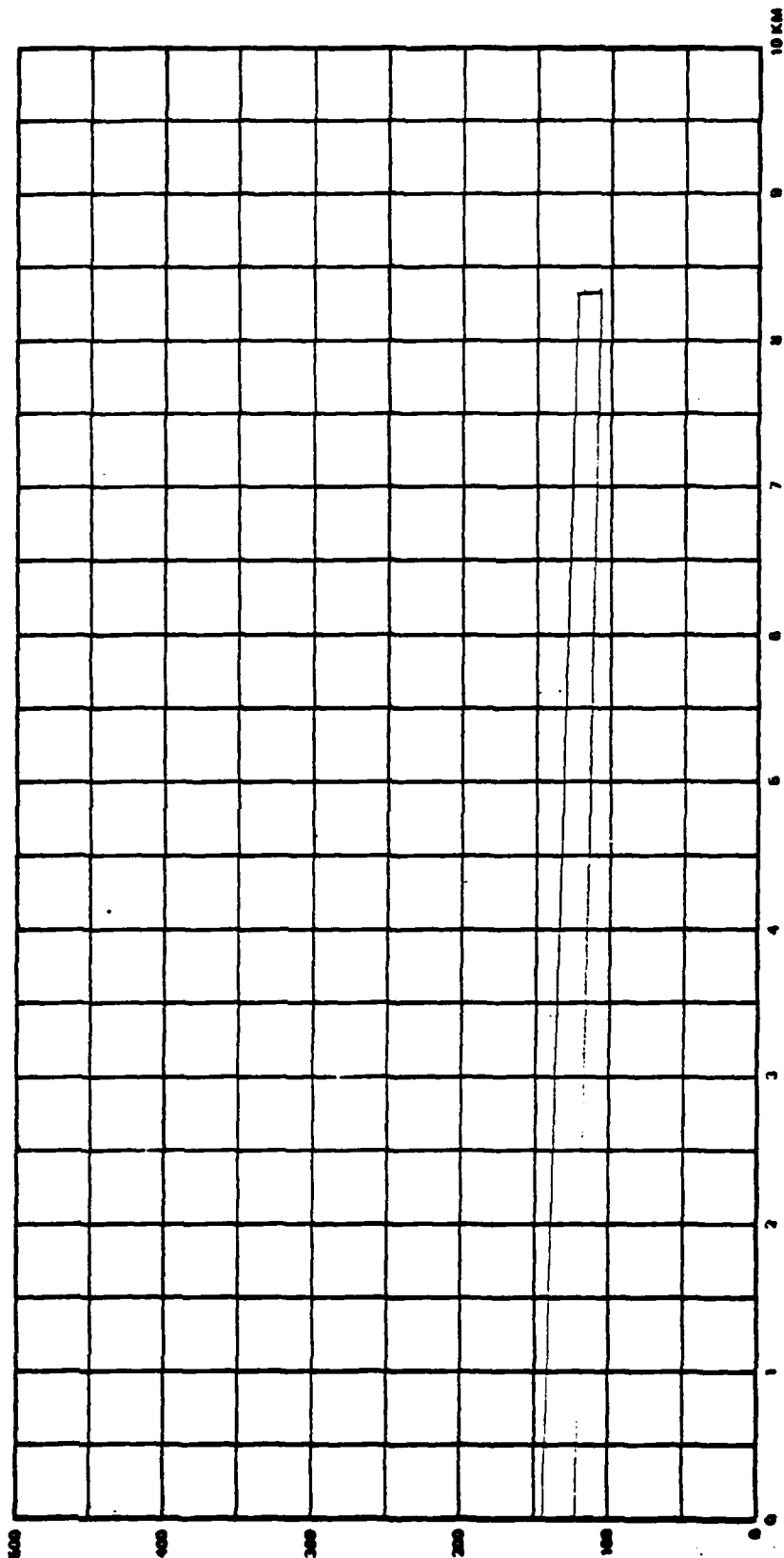


3rd repeater from

STATION Langerkopf
 LATITUDE D 49 M 20 S 52
 LONGITUDE D 08 M 12 S 20
 ELEVATION 125 M
 TOWER HEIGHT 20 M

4th repeater to

STATION Schwetzingen
 LATITUDE D 49 M 19 S 56
 LONGITUDE D 08 M 19 S 08
 ELEVATION 105 M
 TOWER HEIGHT 20 M



4th repeater from

STATION Langerkopf

LATITUDE D 49 M 19 S 56

LONGITUDE D 08 M 19 S 08

ELEVATION 105 M

TOWER HEIGHT 20 M

5th repeater to

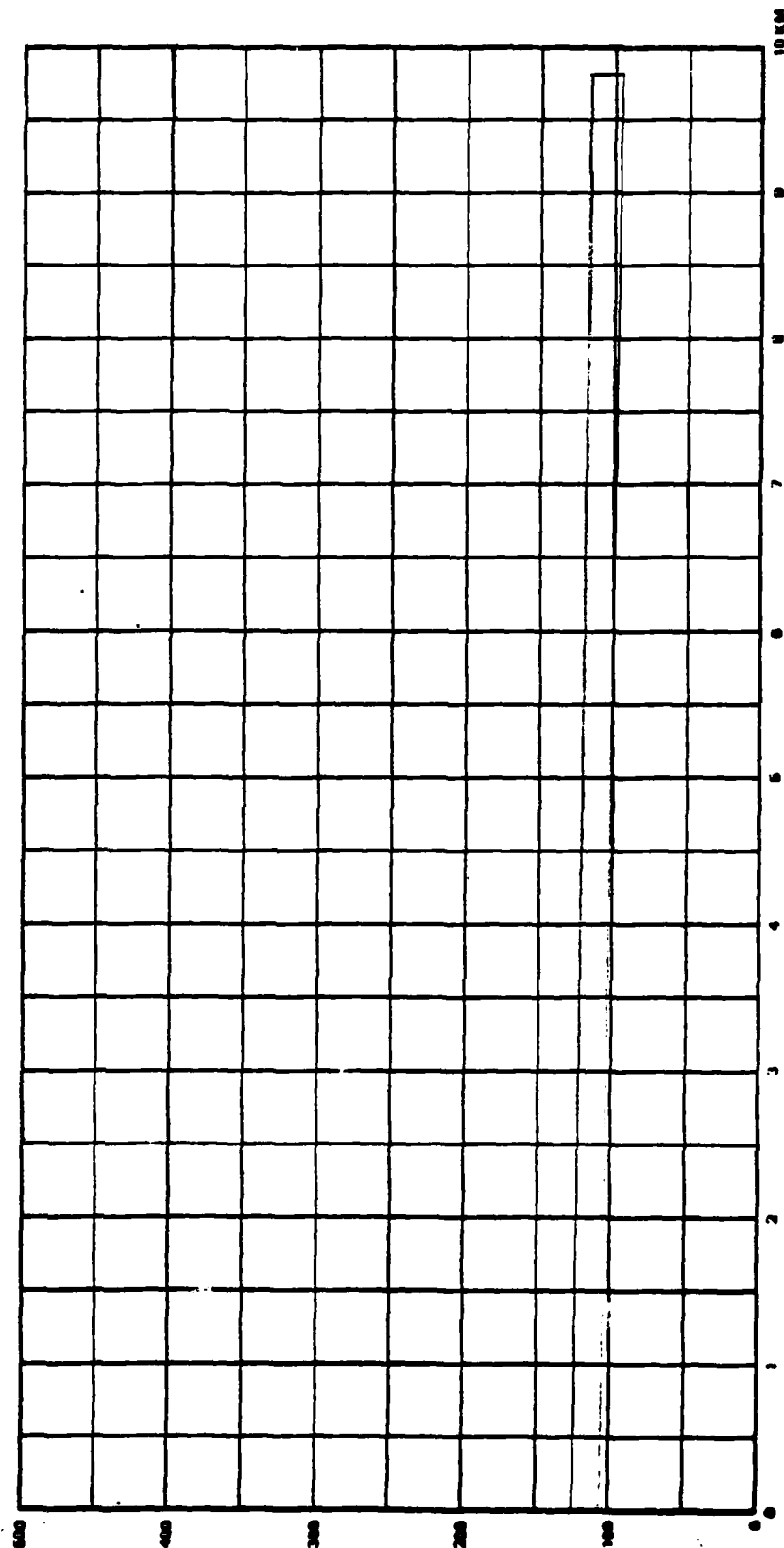
STATION Schwetzingen

LATITUDE D 49 M 22 S 30

LONGITUDE D 08 M 26 S 15

ELEVATION 98 M

TOWER HEIGHT 20 M



5th repeater from

STATION Langerkopf

LATITUDE D 49 M 22 S 30

LONGITUDE D 08 M 26 S 15

ELEVATION 98 M

TOWER HEIGHT 20 M

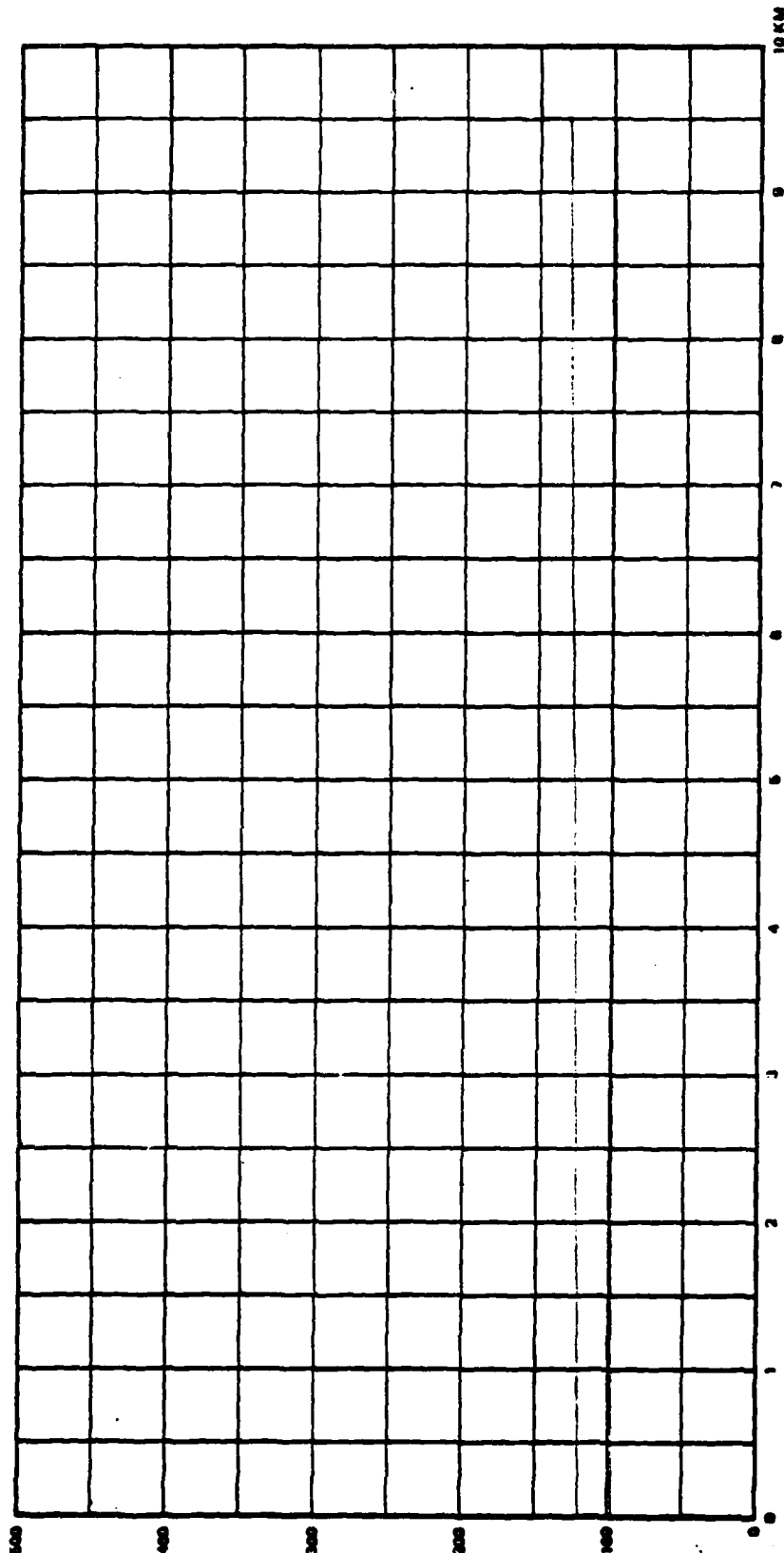
STATION Schwetzingen

LATITUDE D 49 M 24 S 31

LONGITUDE D 08 M 33 S 40

ELEVATION 100 M

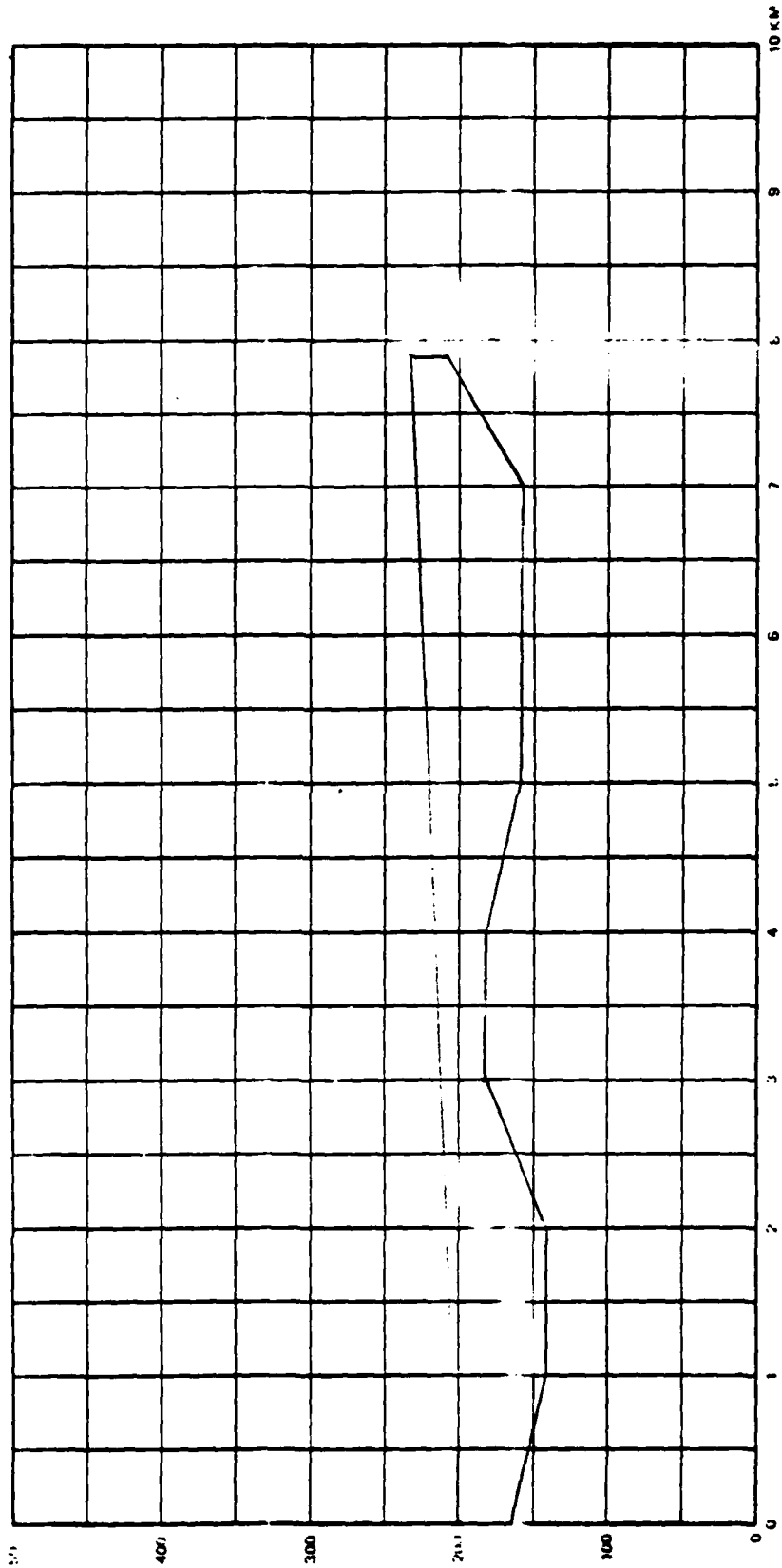
TOWER HEIGHT 30 M



1st repeater to

STATION Frankfurt
LATITUDE D 50 M 04 S 33
LONGITUDE D 08 M 20 S 05
ELEVATION 210 M
TOWER HEIGHT 20 M

STATION Lindsey
LATITUDE D 50 M 04 S 17
LONGITUDE D 08 M 13 S 24
ELEVATION 170 M
TOWER HEIGHT 30 M

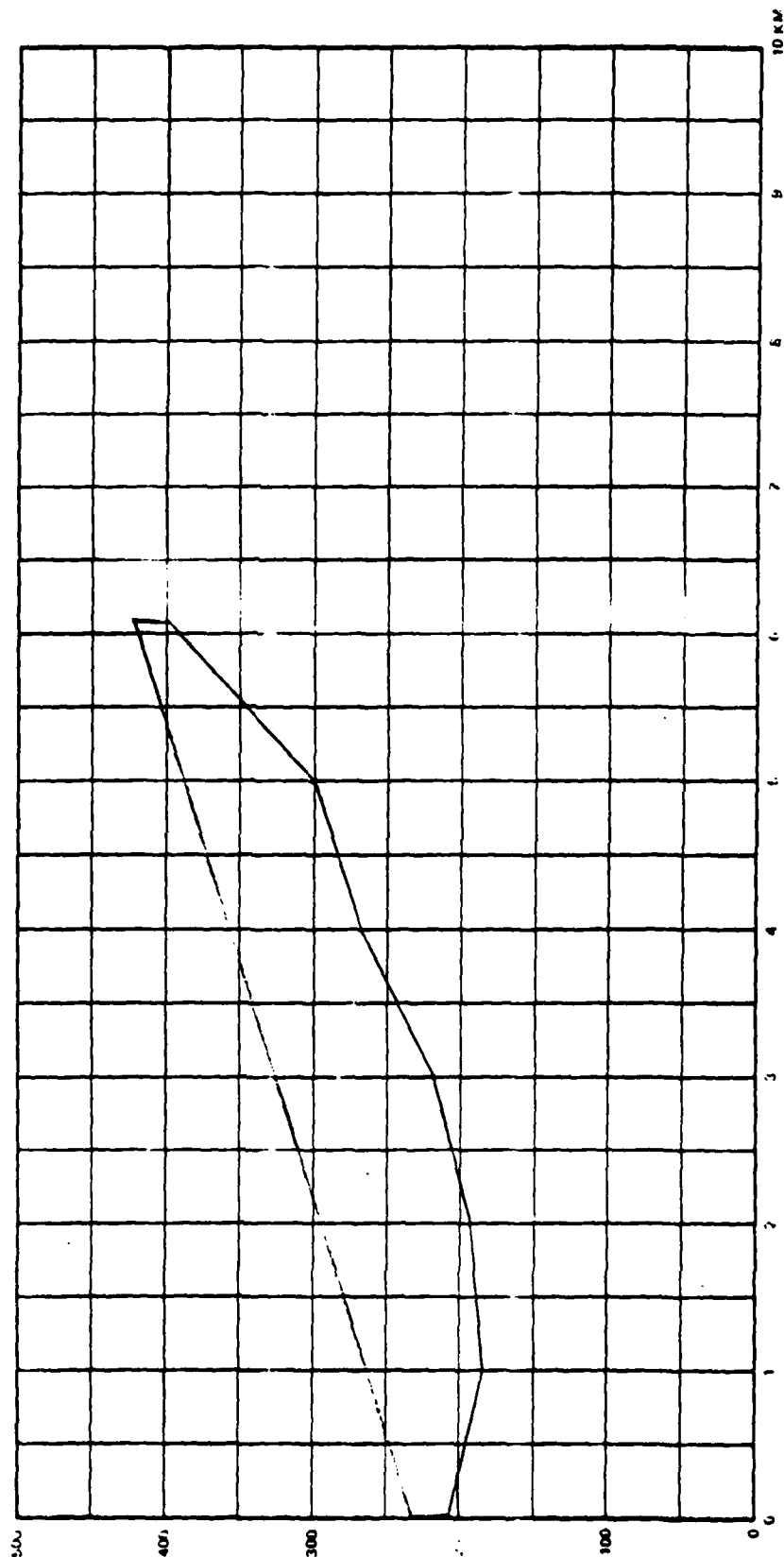


1st repeater from

STATION Lindsey
 LATITUDE D 50 M 04 S 33
 LONGITUDE D 08 M 20 S 05
 ELEVATION 210 M
 TOWER HEIGHT 20 M

2nd repeater to

STATION Frankfurt
 LATITUDE D 50 M 07 S 08
 LONGITUDE D 08 M 23 S 05
 ELEVATION 398 M
 TOWER HEIGHT 20 M

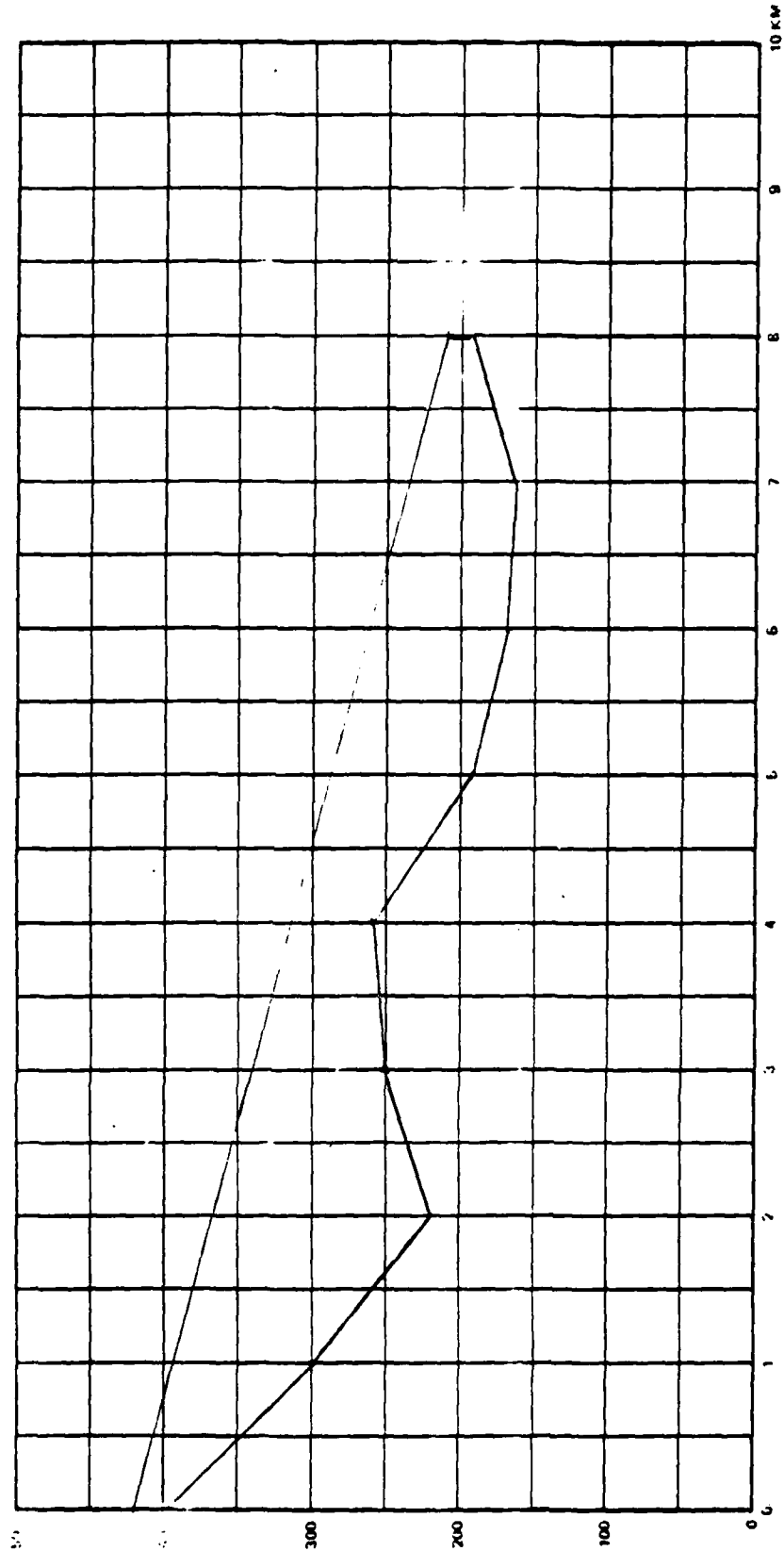


2nd repeater from

STATION Lindsey
 LATITUDE D 50 M 07 S 08
 LONGITUDE D 08 M 23 S 05
 ELEVATION 398 M
 TOWER HEIGHT 20 M

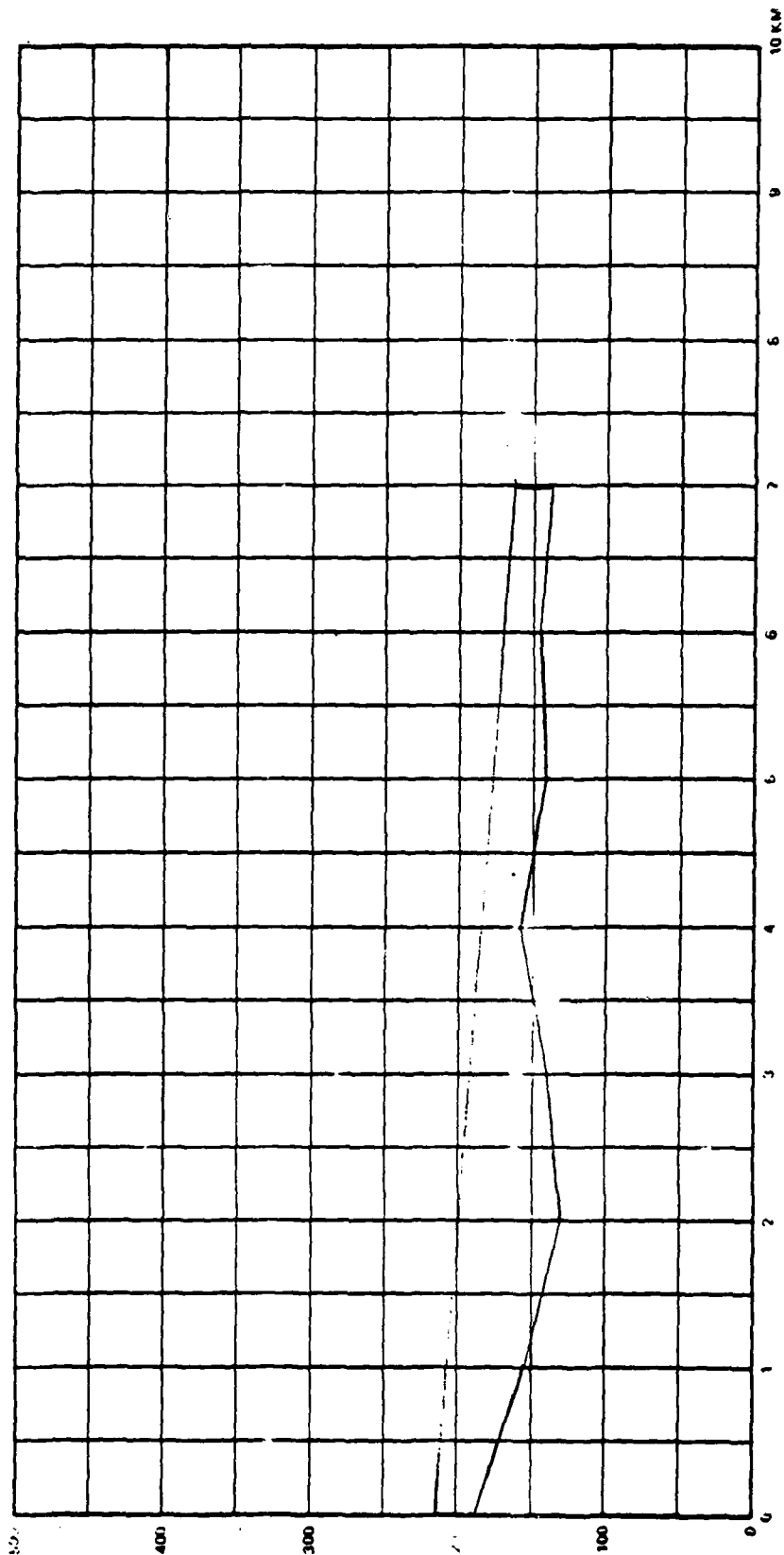
3rd repeater to

STATION Frankfurt
 LATITUDE D 50 M 08 S 00
 LONGITUDE D 08 M 29 S 40
 ELEVATION 190 M
 TOWER HEIGHT 20 M



3rd repeater from
 STATION Lindsey
 LATITUDE D 50 M 08 S 00
 LONGITUDE D 08 M 29 S 40
 ELEVATION 190 M
 TOWER HEIGHT 20 M

4th repeater to
 STATION Frankfurt
 LATITUDE D 50 M 09 S 10
 LONGITUDE D 08 M 35 S 15
 ELEVATION 140 M
 TOWER HEIGHT 20 M

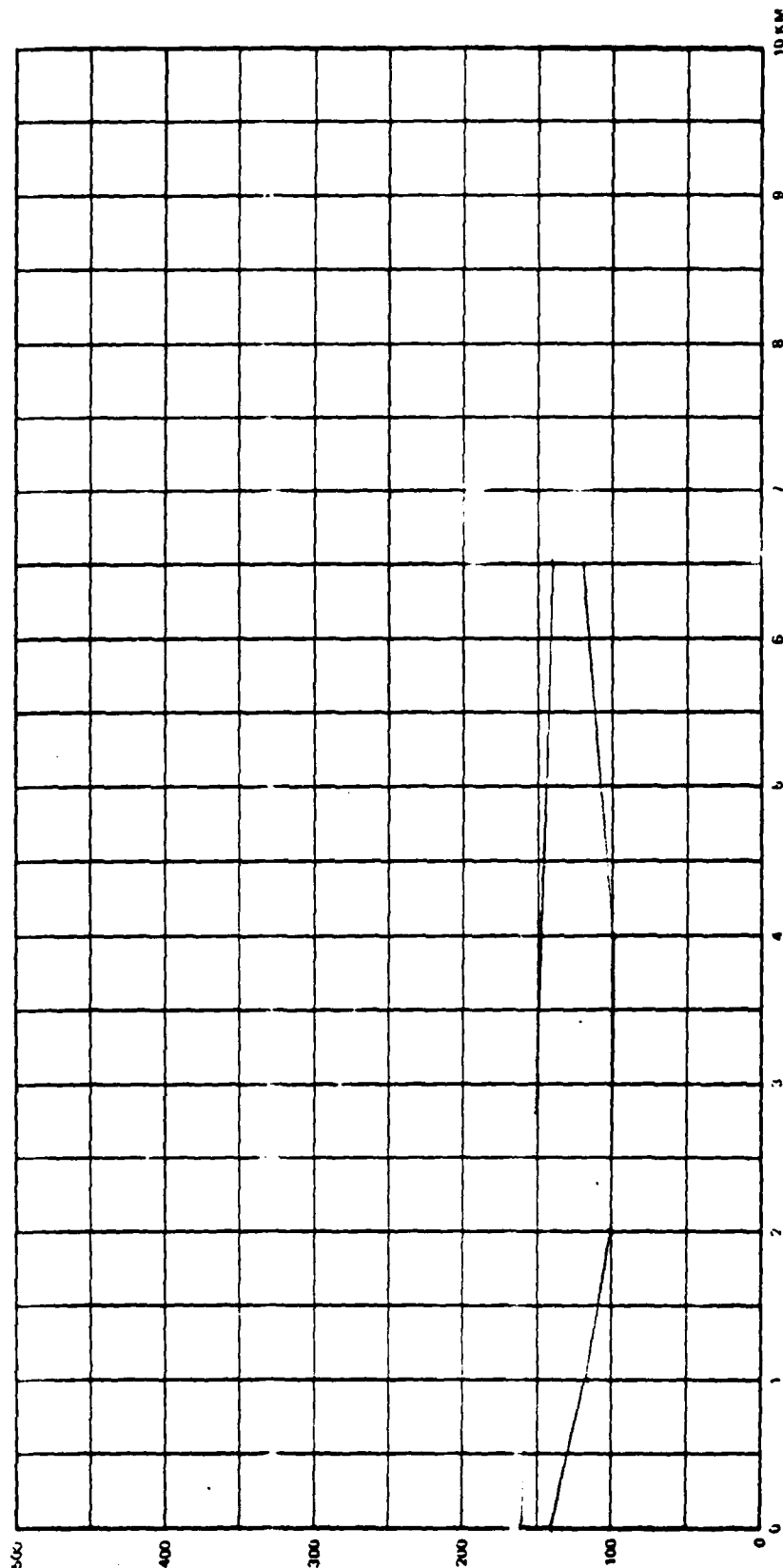


4th repeater from

STATION Lindsey
 LATITUDE D 50 M 09 S 10
 LONGITUDE D 08 M 35 S 15
 ELEVATION 140 M
 TOWER HEIGHT 20 M

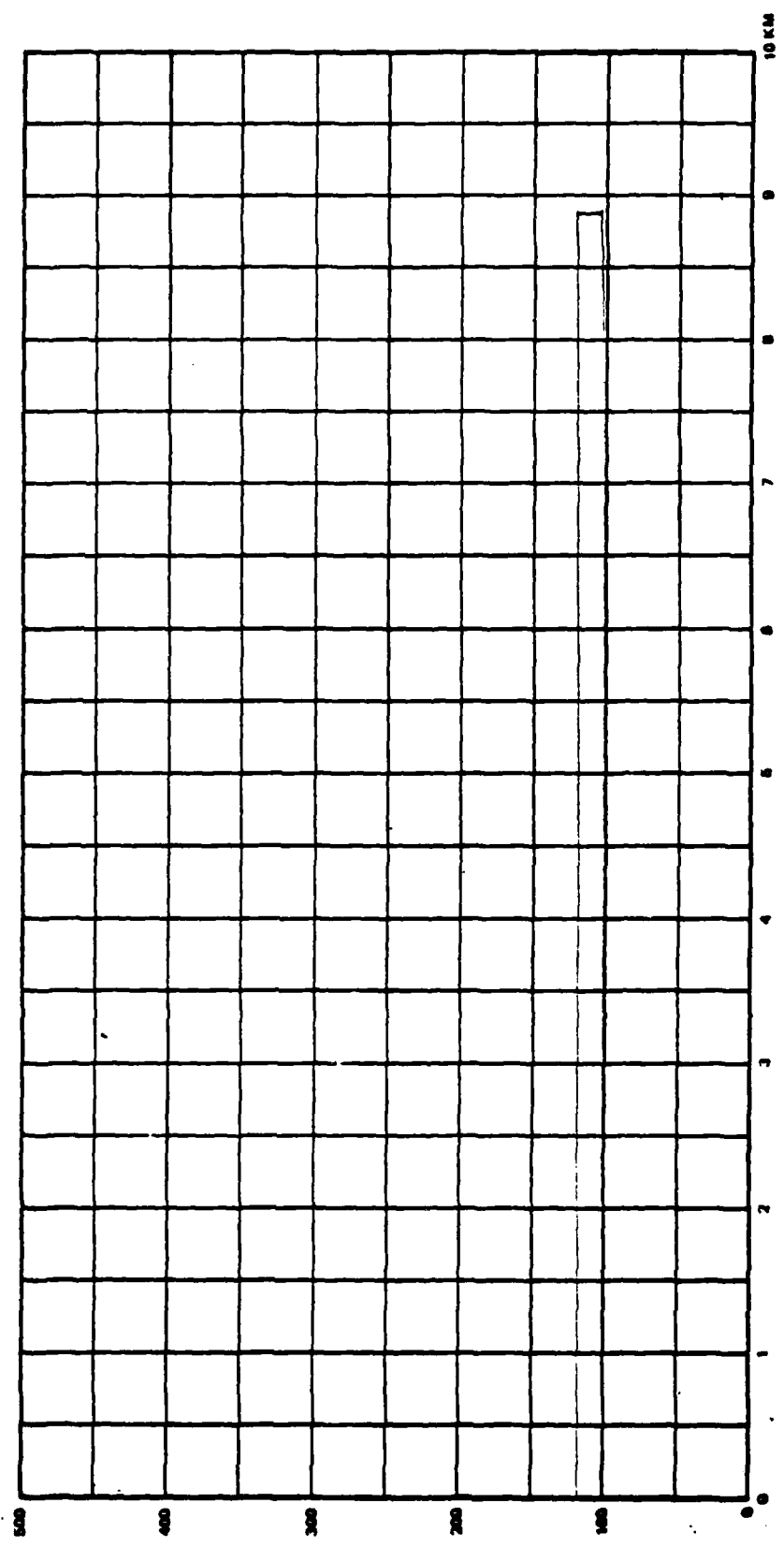
STATION Frankfurt

LATITUDE D 50 M 07 S 41
 LONGITUDE D 08 M 40 S 15
 ELEVATION 119 M
 TOWER HEIGHT 20 M



1st repeater to
 STATION Heidelberg
 LATITUDE D 49 M 28 S 05
 LONGITUDE D 08 M 37 S 43
 ELEVATION 103 M
 TOWER HEIGHT 20 M

STATION Mannheim
 LATITUDE D 49 M 30 S 59
 LONGITUDE D 08 M 31 S 48
 ELEVATION 100 M
 TOWER HEIGHT 20 M



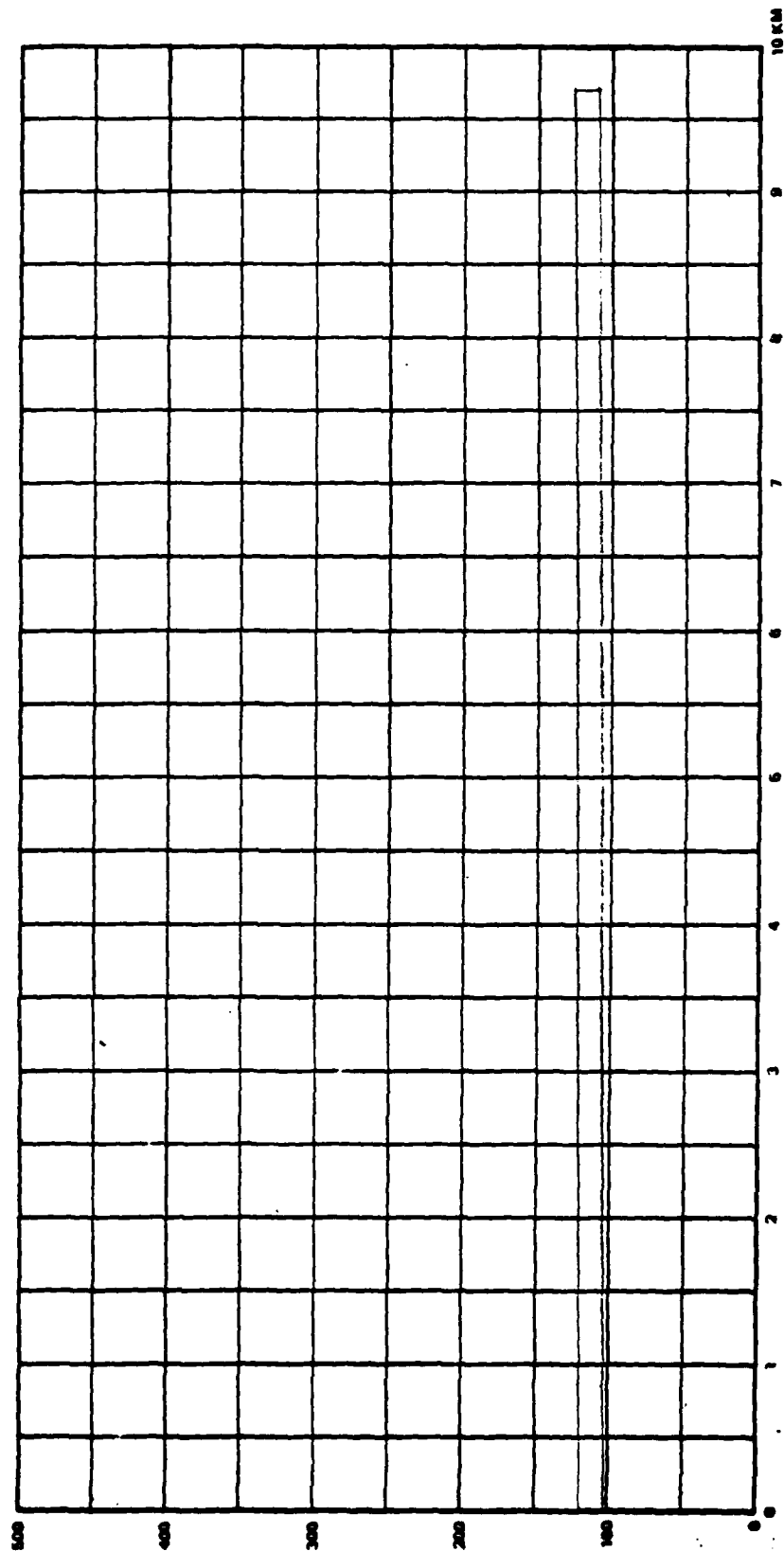
1st repeater from

STATION Mannheim

LATITUDE D 49 M 28 S 05
LONGITUDE D 08 M 37 S 43
ELEVATION 103 M
TOWER HEIGHT 20 M

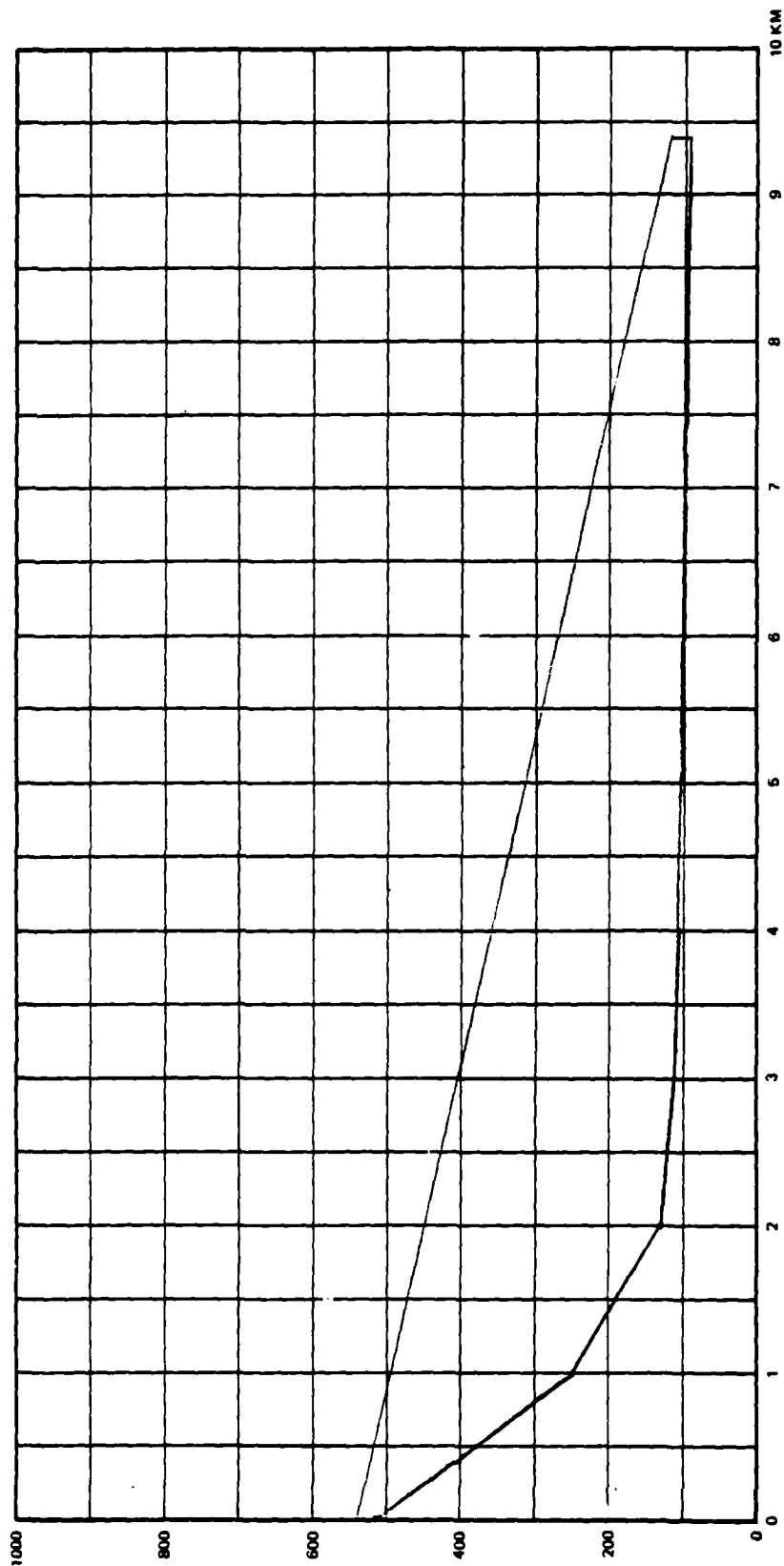
STATION Heidelberg

LATITUDE D 49 M 23 S 12
LONGITUDE D 08 M 41 S 00
ELEVATION 111 M
TOWER HEIGHT 20 M



1st repeater to
 STATION Darmstadt
 LATITUDE D 49 M 47 S 55
 LONGITUDE D 08 M 34 S 18
 ELEVATION 96 M
 TOWER HEIGHT 20 M

STATION Melibocus
 LATITUDE D 49 M 43 S 32
 LONGITUDE D 08 M 38 S 17
 ELEVATION 516 M
 TOWER HEIGHT 20 M

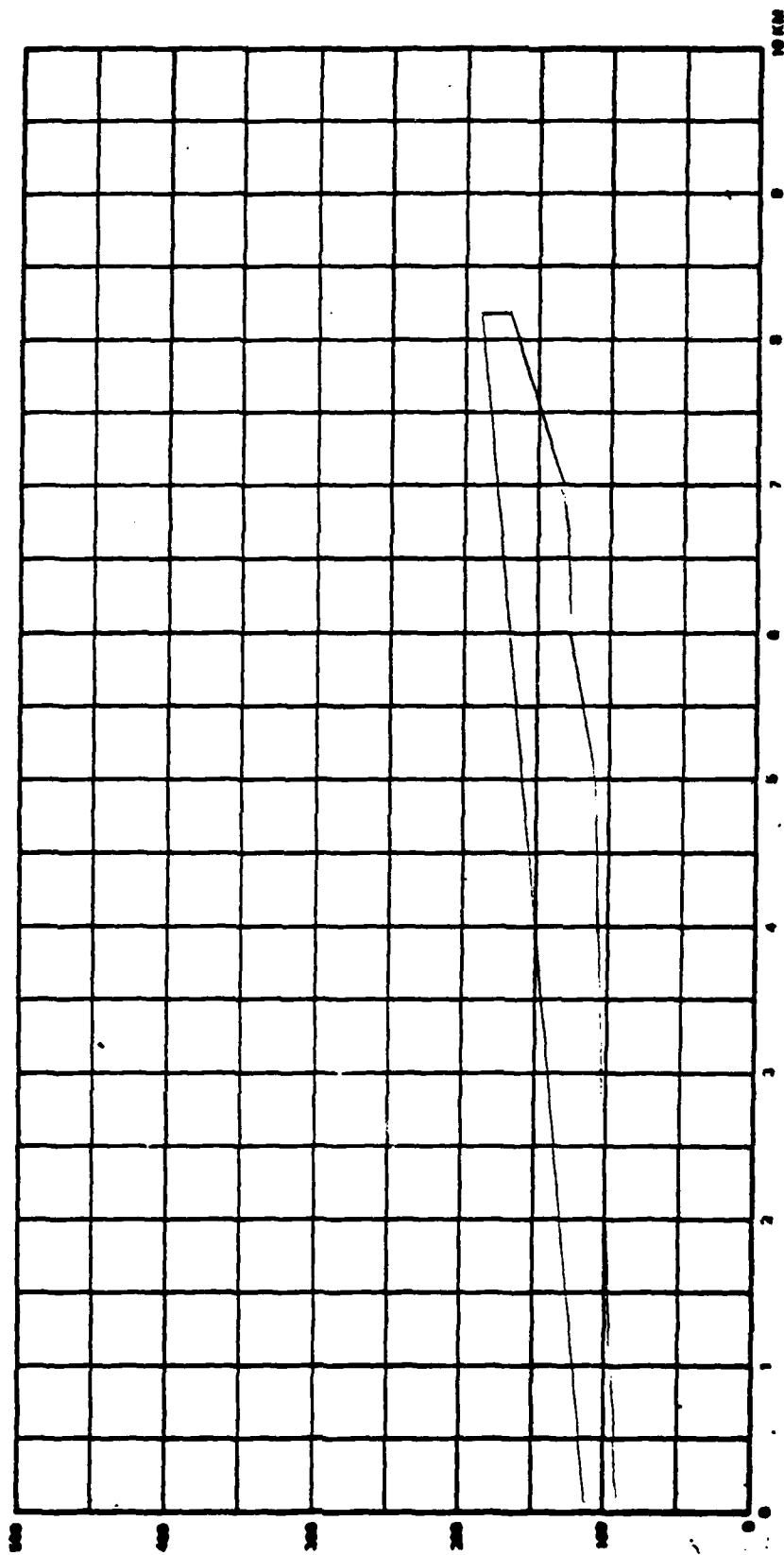


1st repeater from
STATION Melibocus

LATITUDE D 49 M 47 S 55
LONGITUDE D 08 M 34 S 18
ELEVATION 96 M
TOWER HEIGHT 20 M

STATION Darmstadt

LATITUDE D 49 M 50 S 55
LONGITUDE D 08 M 39 S 19
ELEVATION 170 M
TOWER HEIGHT 20 M

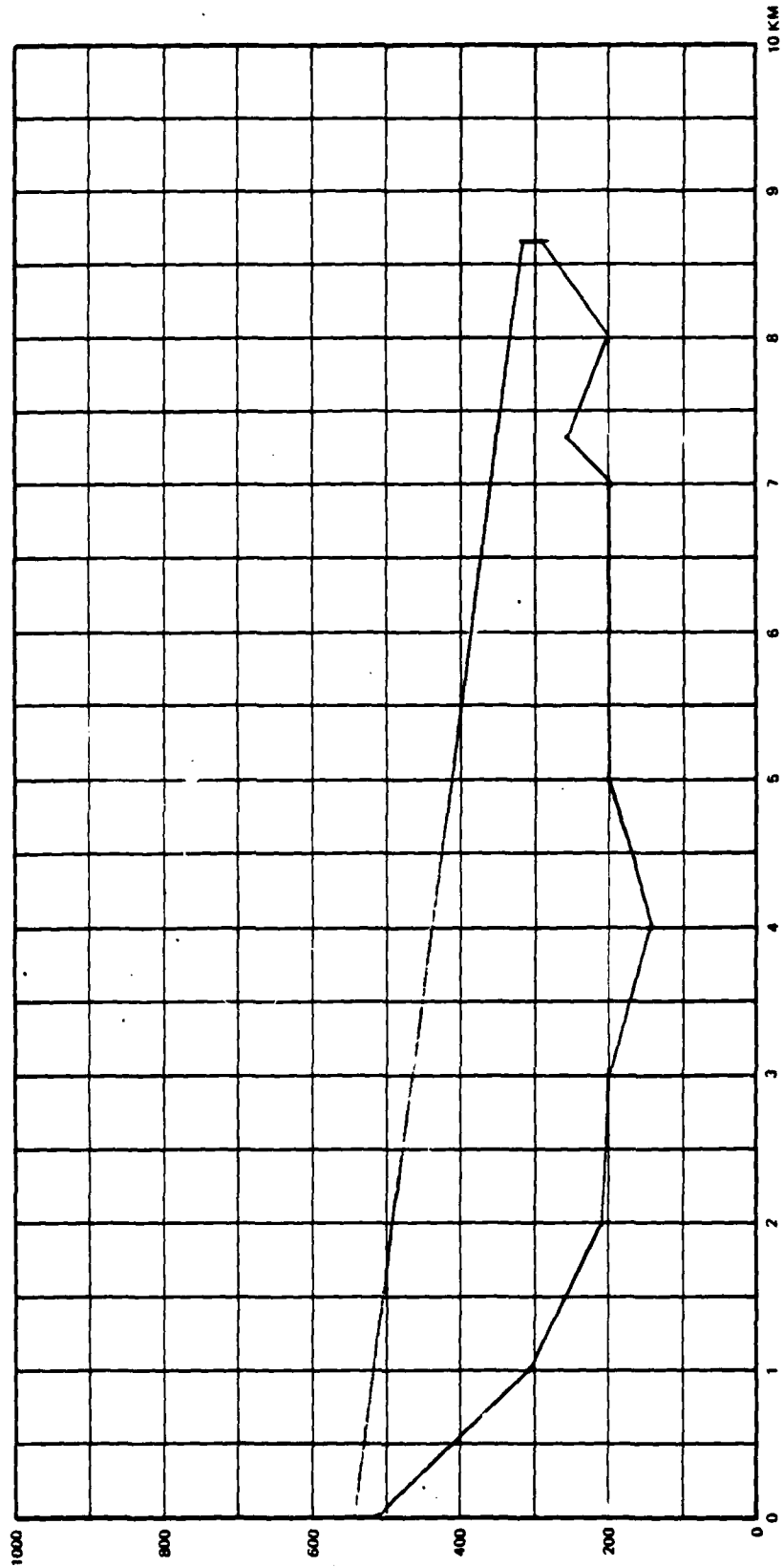


STATION Melibocus

LATITUDE D 49 M 43 S 32
 LONGITUDE D 08 M 38 S 17
 ELEVATION 516 M
 TOWER HEIGHT 20 M

1st repeater to

STATION Koenigstuhl
 LATITUDE D 49 M 38 S 50
 LONGITUDE D 08 M 38 S 50
 ELEVATION 295 M
 TOWER HEIGHT 20 M



1st repeater from

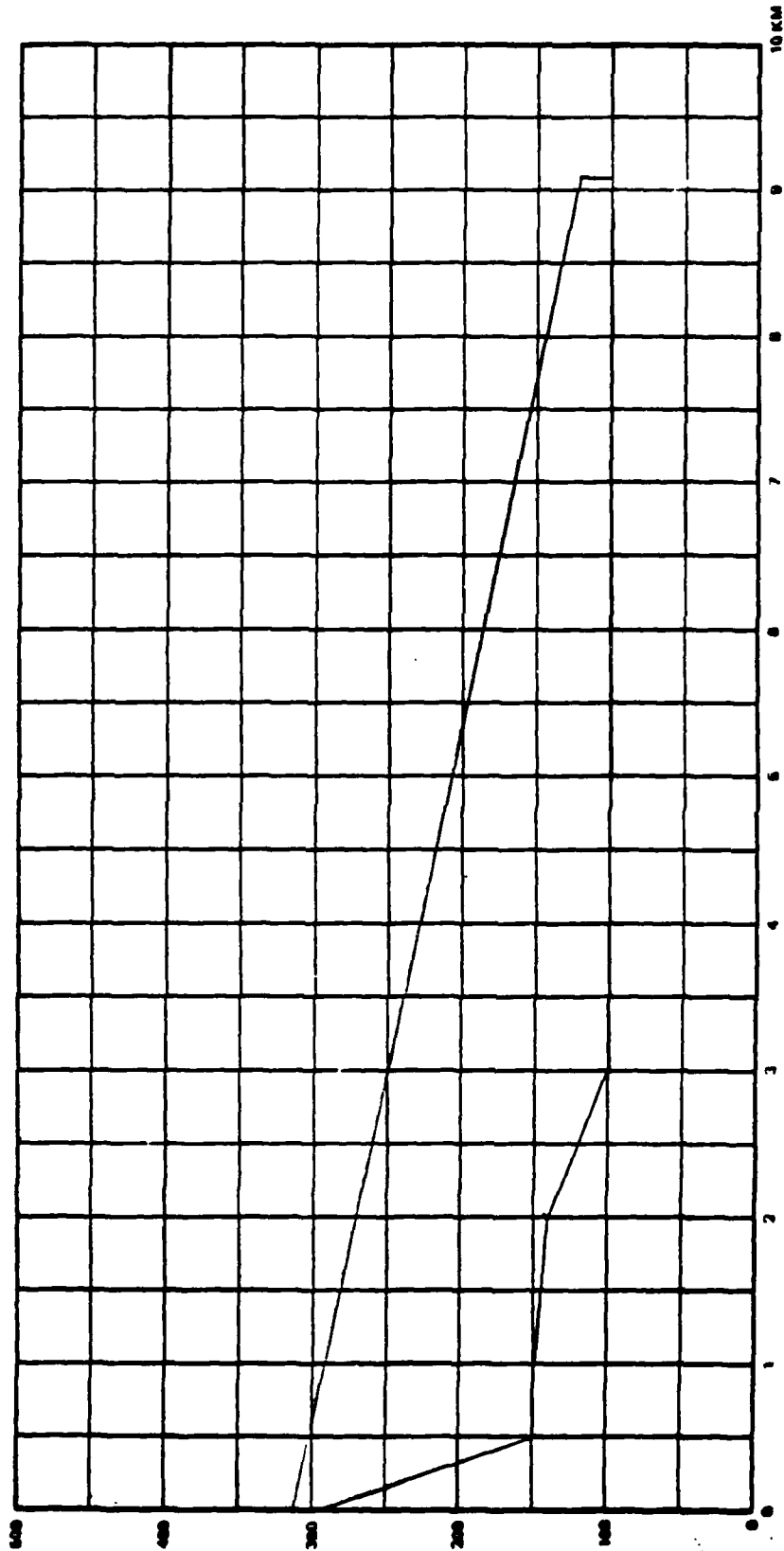
STATION Melibocus

LATITUDE D 49 M 38 S 50
 LONGITUDE D 08 M 38 S 50
 ELEVATION 295 M
 TOWER HEIGHT 20 M

2nd repeater to

STATION Koenigstuhl

LATITUDE D 49 M 33 S 50
 LONGITUDE D 08 M 38 S 23
 ELEVATION 100 M
 TOWER HEIGHT 20 M

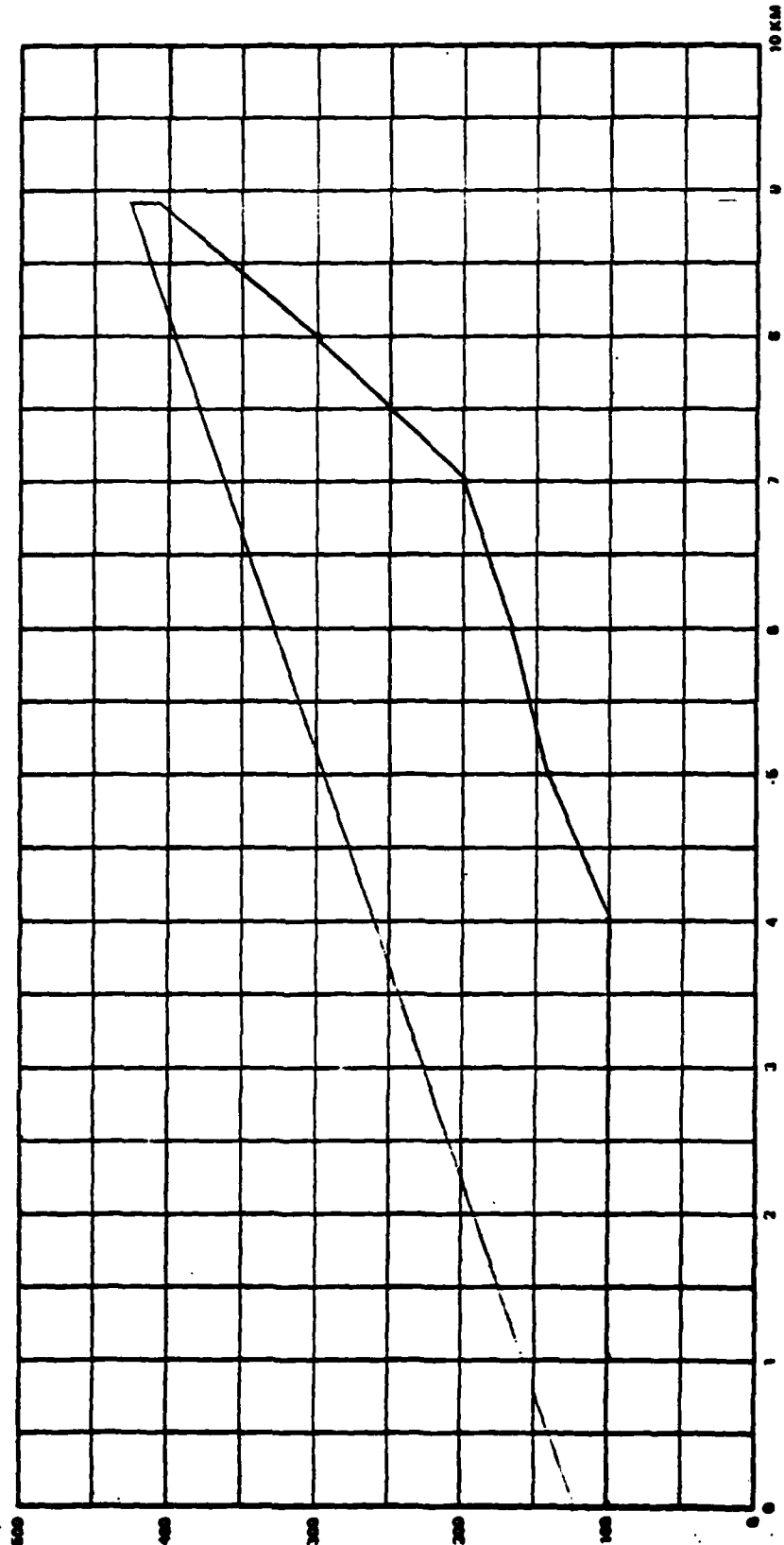


2nd repeater from

STATION Melibocus
 LATITUDE D 49 M 33 S 50
 LONGITUDE D 08 M 38 S 23
 ELEVATION 100 M
 TOWER HEIGHT 20 M

3rd repeater to

STATION Koenigstuhl
 LATITUDE D 49 M 29 S 39
 LONGITUDE D 08 M 40 S 58
 ELEVATION 406 M
 TOWER HEIGHT 20 M



3rd repeater from

STATION Melibocus

LATITUDE D 49 M 29 S 39

LONGITUDE D 08 M 40 S 58

ELEVATION 406 M

TOWER HEIGHT 20 M

4th repeater to

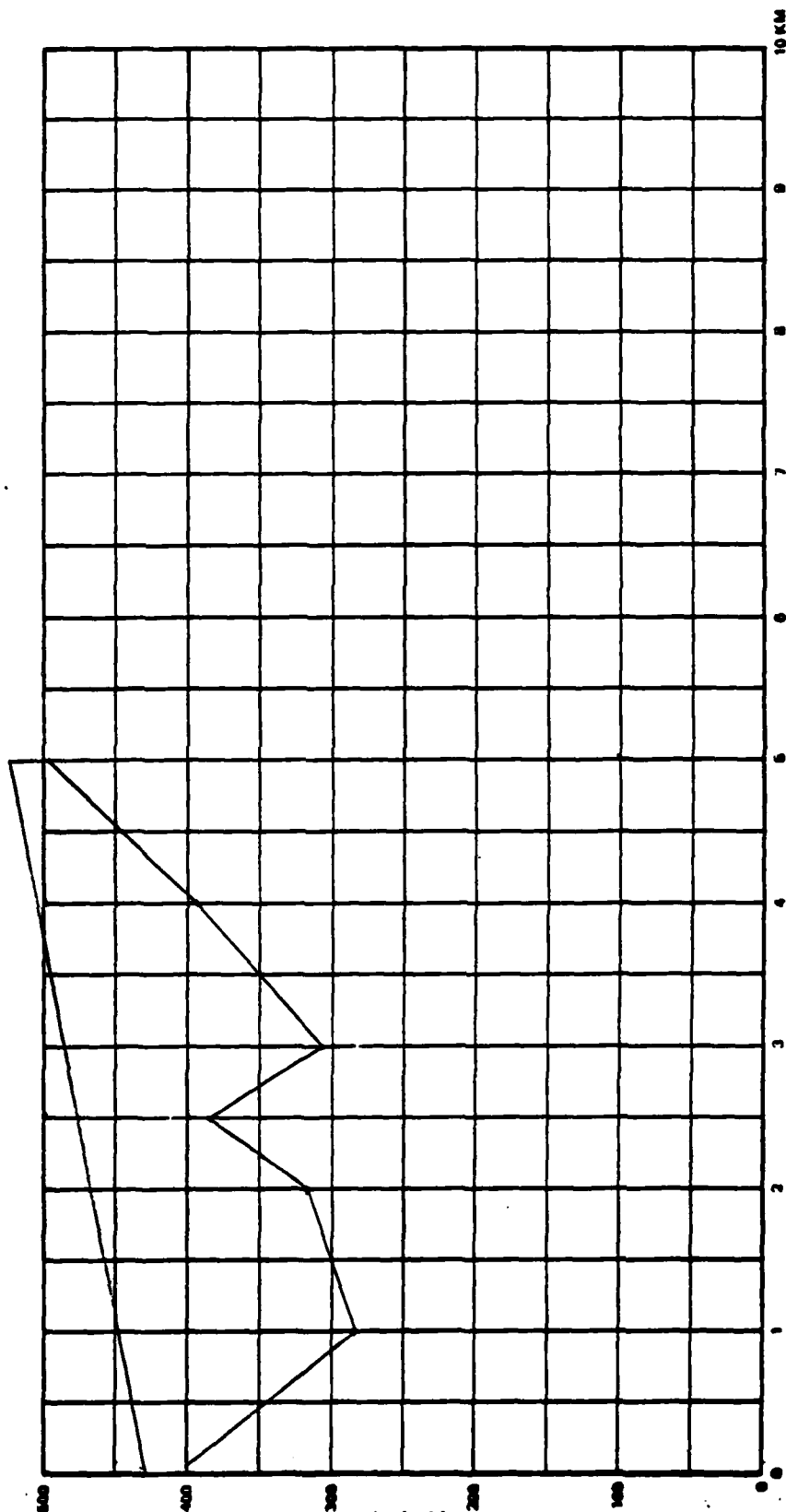
STATION Koenigstuhl

LATITUDE D 49 M 26 S 50

LONGITUDE D 08 M 42 S 25

ELEVATION 496 M

TOWER HEIGHT 20 M



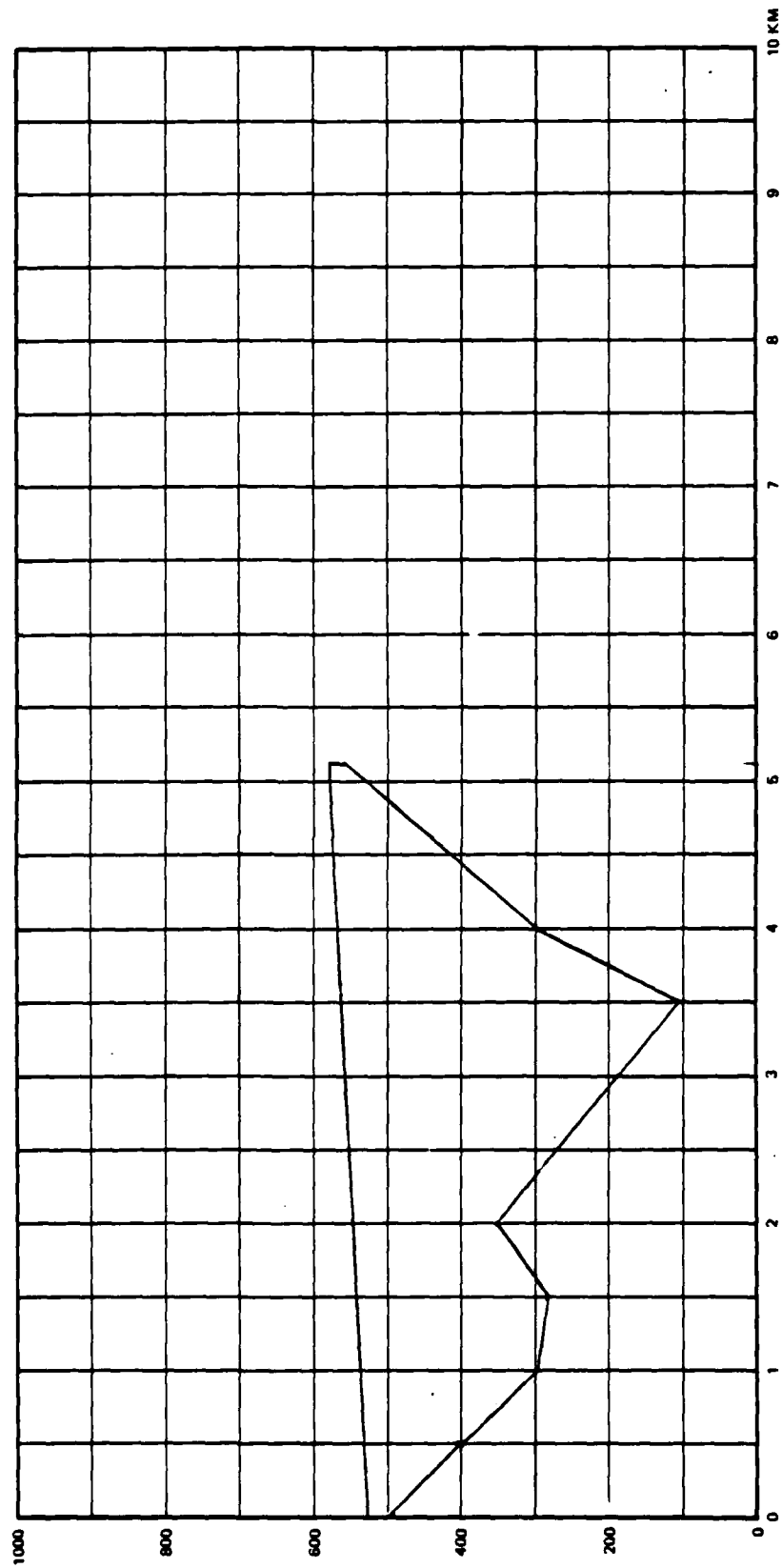
4th repeater from

STATION Melibocus

LATITUDE D 49 M 26 S 50
 LONGITUDE D 08 M 42 S 25
 ELEVATION 496 M
 TOWER HEIGHT 20 M

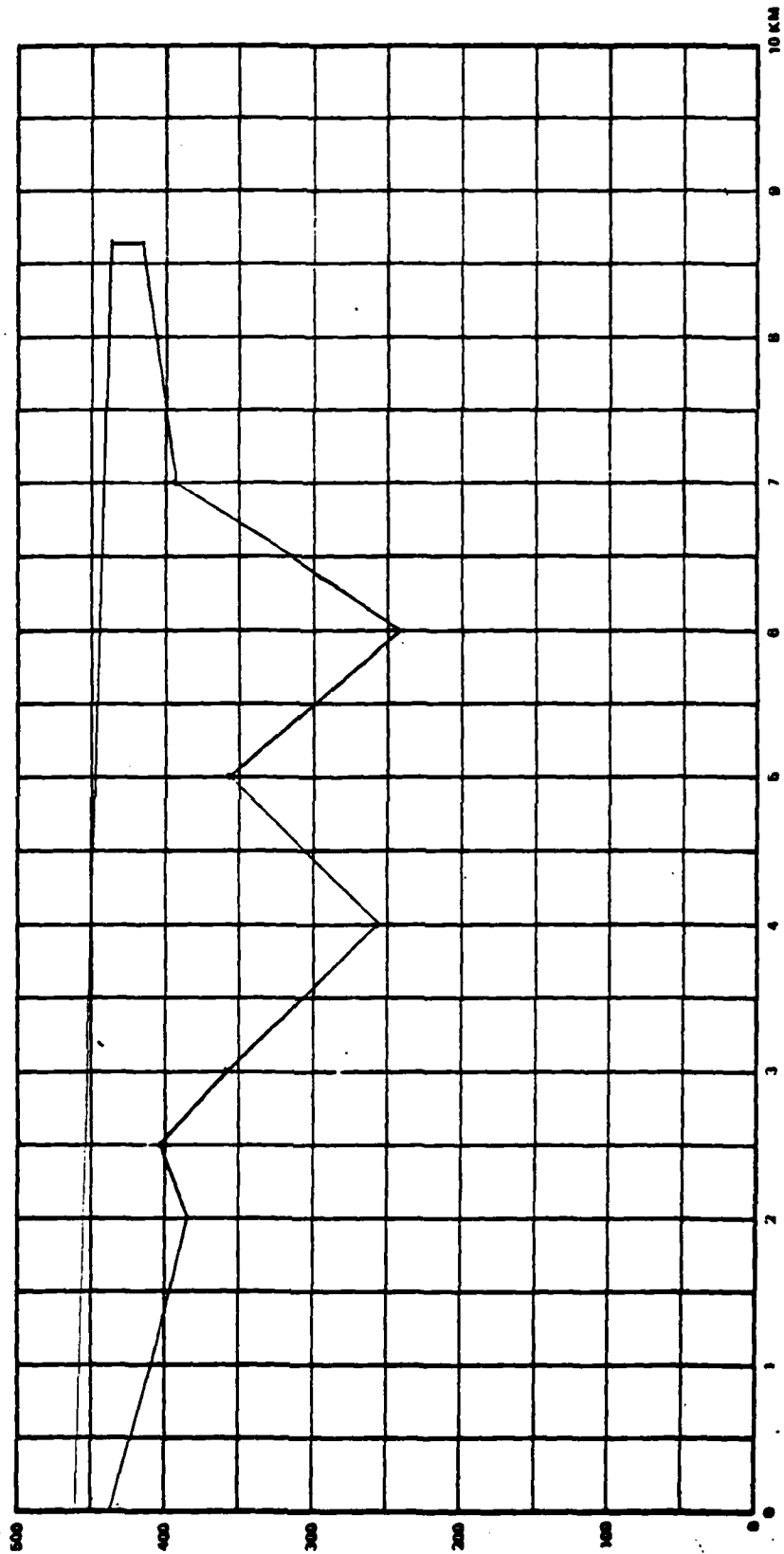
STATION Koenigstuh1

LATITUDE D 49 M 24 S 11
 LONGITUDE D 08 M 44 S 02
 ELEVATION 560 M
 TOWER HEIGHT 20 M



STATION Pirmasens
 LATITUDE D 49 M 13 S 01
 LONGITUDE D 07 M 36 S 35
 ELEVATION 439 M
 TOWER HEIGHT 20 M

1st repeater to
 STATION Bann
 LATITUDE D 49 M 17 S 43
 LONGITUDE D 07 M 36 S 57
 ELEVATION 415 M
 TOWER HEIGHT 20 M



1st repeater from

STATION Pirmasens

LATITUDE D 49 M 17 S 43

LONGITUDE D 07 M 36 S 57

ELEVATION 415 M

TOWER HEIGHT 20 M

2nd repeater to

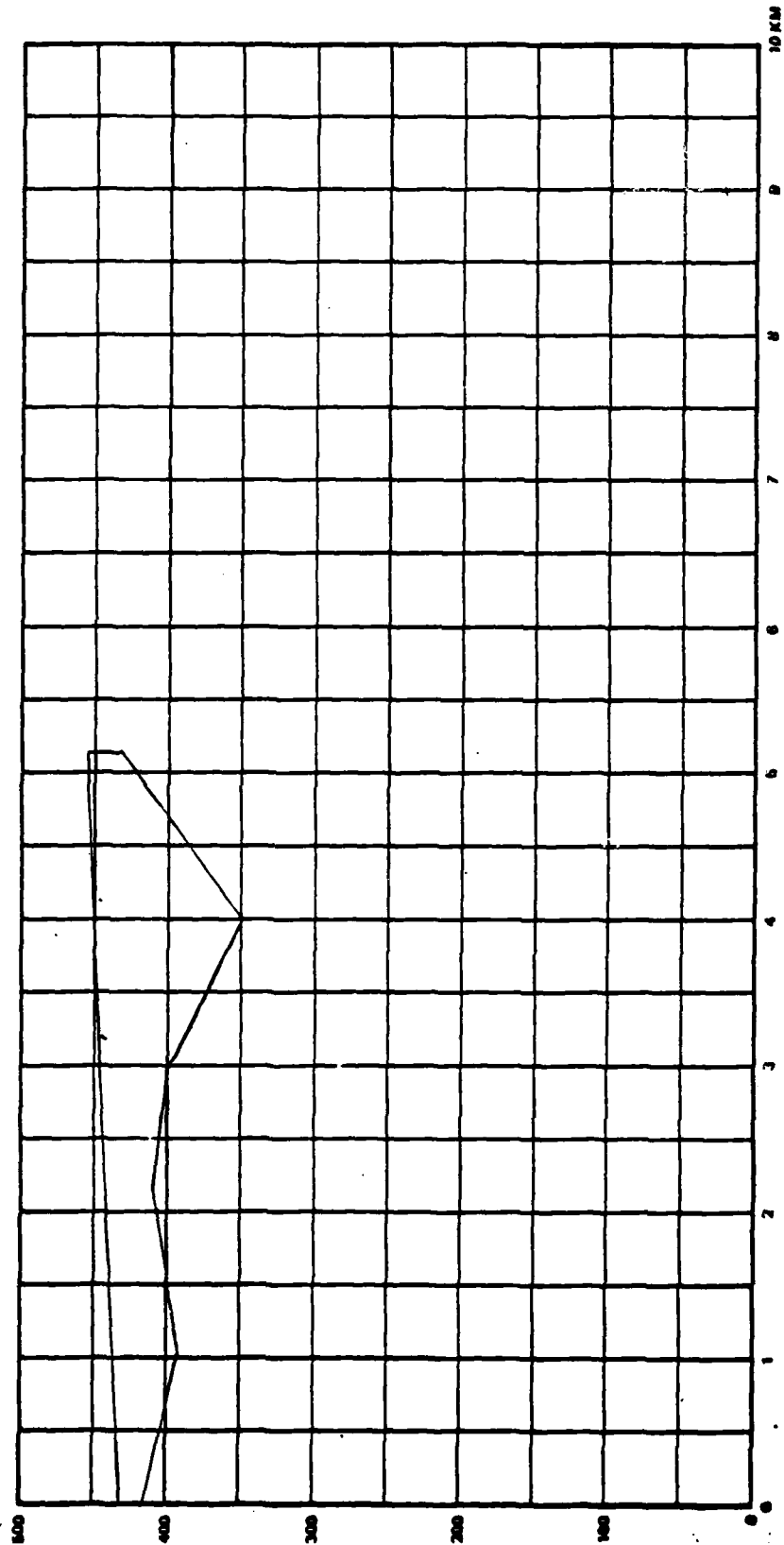
STATION Bann

LATITUDE D 49 M 20 S 44

LONGITUDE D 07 M 36 S 40

ELEVATION 438 M

TOWER HEIGHT 20 M



2nd repeater from

STATION Pirmasens

LATITUDE D 49 M 20 S 44

LONGITUDE D 07 M 36 S 40

ELEVATION 438 M

TOWER HEIGHT 20 M

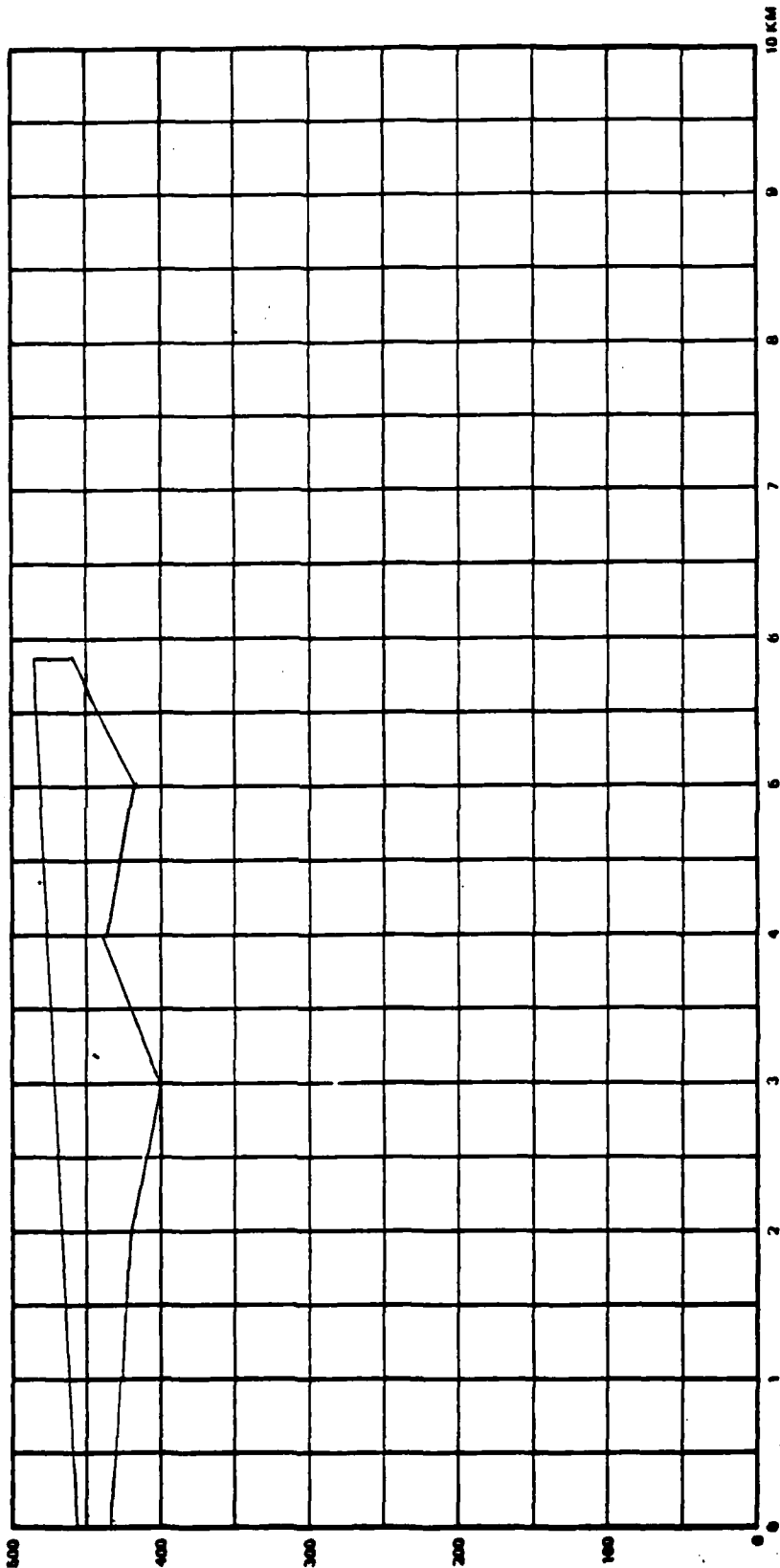
STATION Bann

LATITUDE D 49 M 23 S 55

LONGITUDE D 07 M 35 S 18

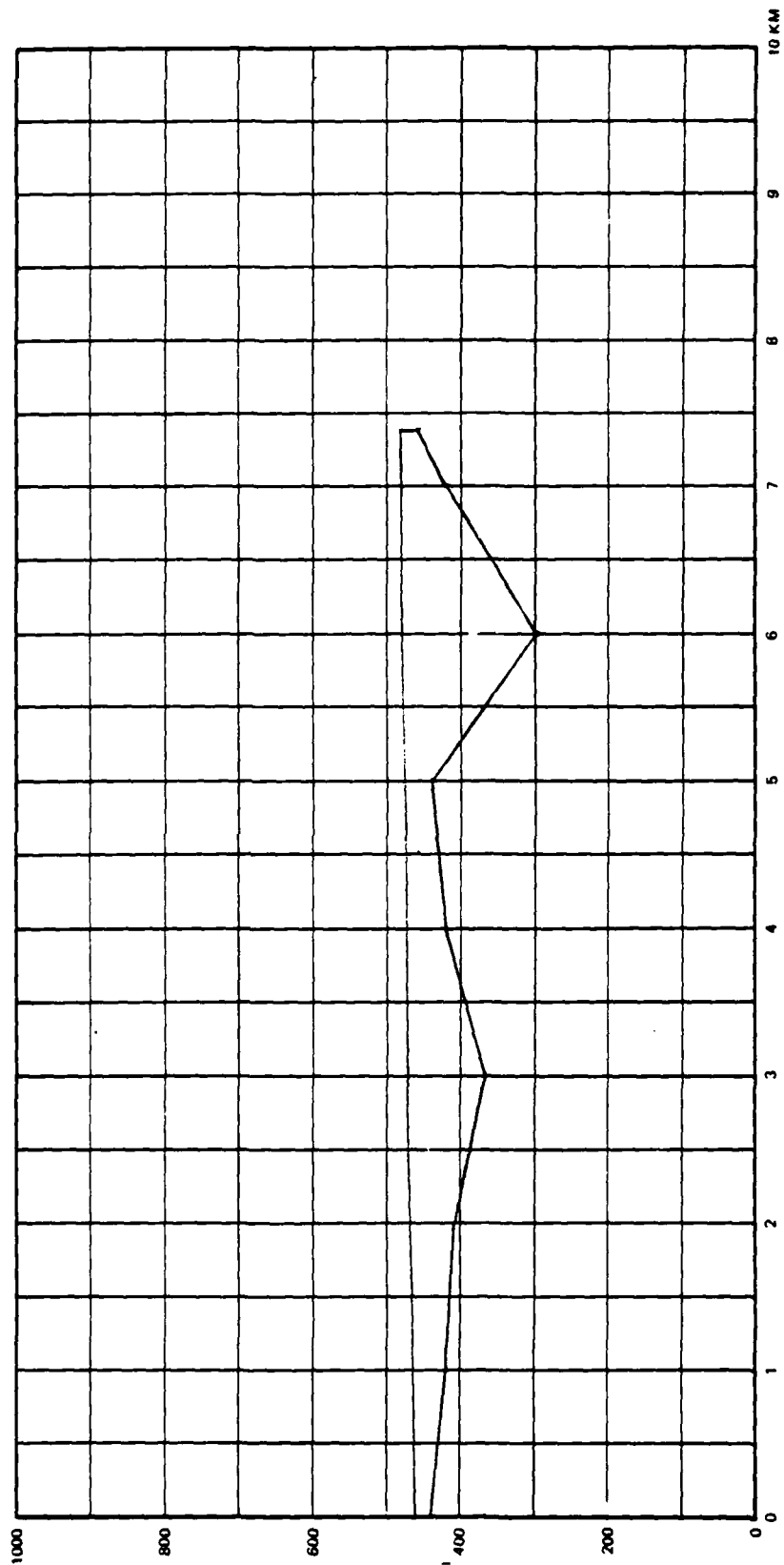
ELEVATION 462 M

TOWER HEIGHT 20 M



1st repeater to
 STATION Langerkopf
 LATITUDE D 49 M 13 S 45
 LONGITUDE D 07 M 42 S 38
 ELEVATION 462 M
 TOWER HEIGHT 20 M

STATION Pirmasens
 LATITUDE D 49 M 13 S 01
 LONGITUDE D 07 M 36 S 35
 ELEVATION 439 M
 TOWER HEIGHT 20 M

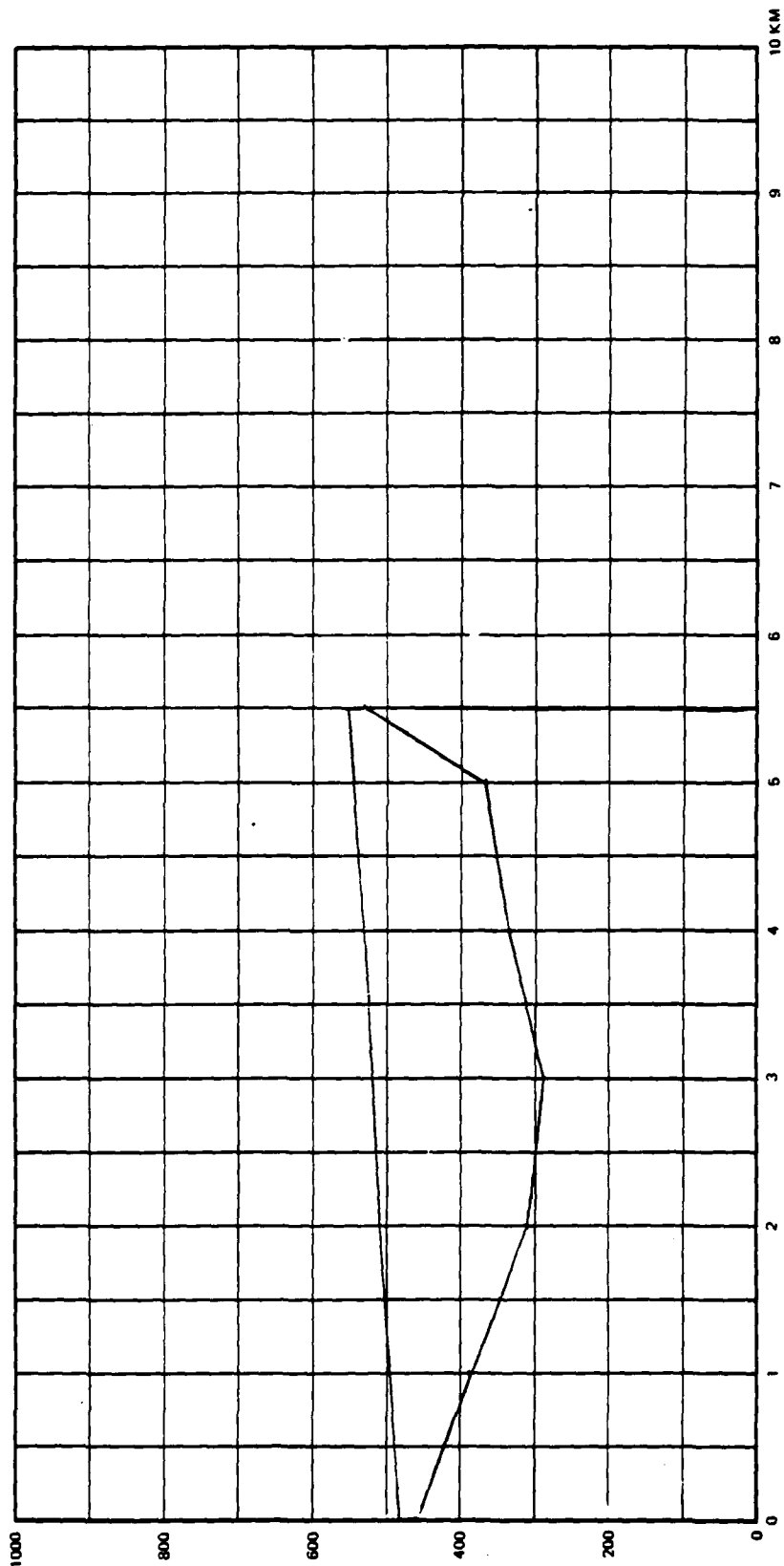


1st repeater from

STATION Pirmasens
 LATITUDE D 49 M 13 S 45
 LONGITUDE D 07 M 42 S 38
 ELEVATION 462 M
 TOWER HEIGHT 20 M

2nd repeater

STATION Langerkopf
 LATITUDE D 49 M 15 S 46
 LONGITUDE D 07 M 45 S 57
 ELEVATION 522 M
 TOWER HEIGHT 20 M



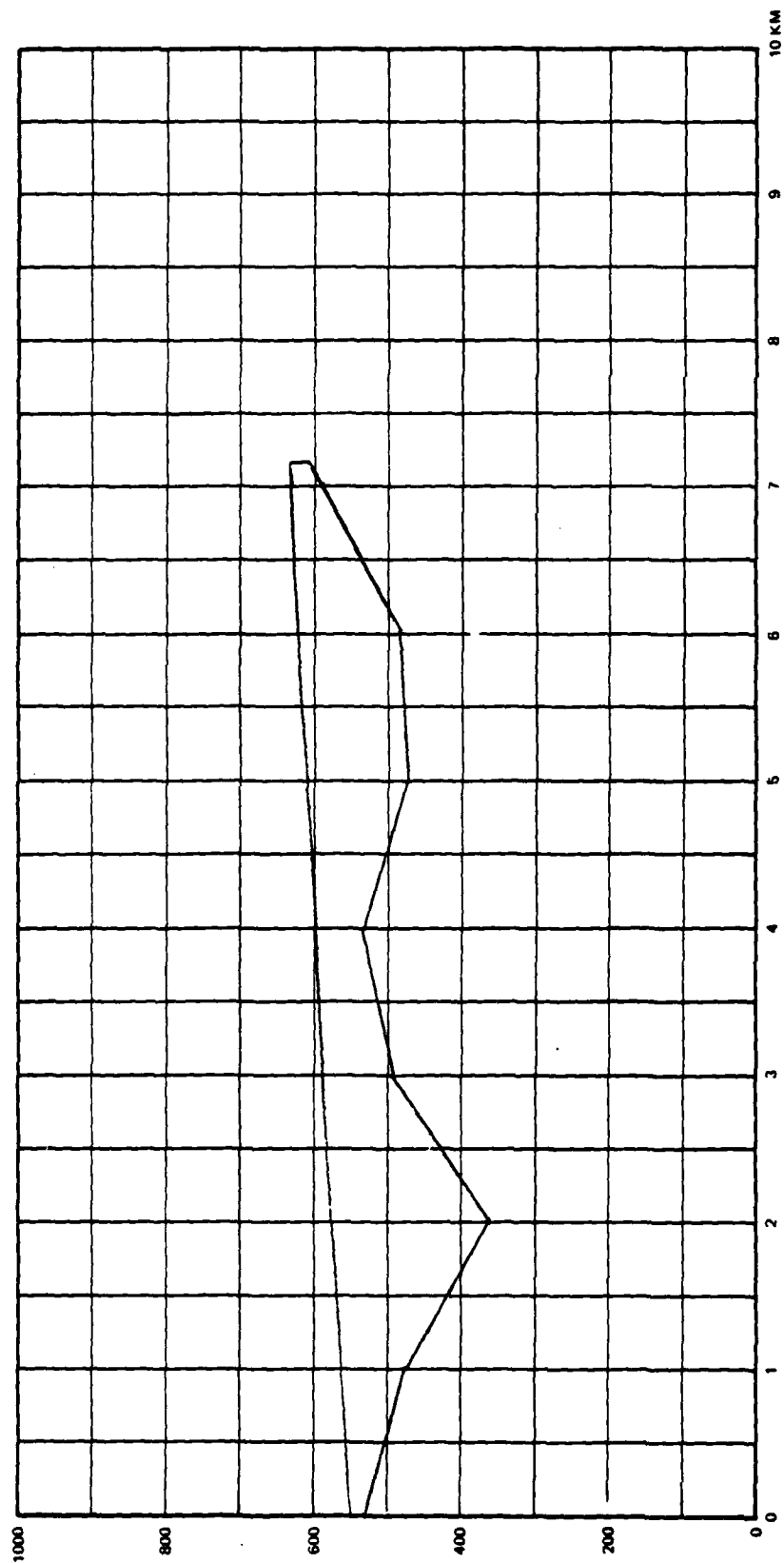
2nd repeater from

STATION Pimasens

LATITUDE D 49 M 15 S 46
LONGITUDE D 07 M 45 S 57
ELEVATION 522 M
TOWER HEIGHT 20 M

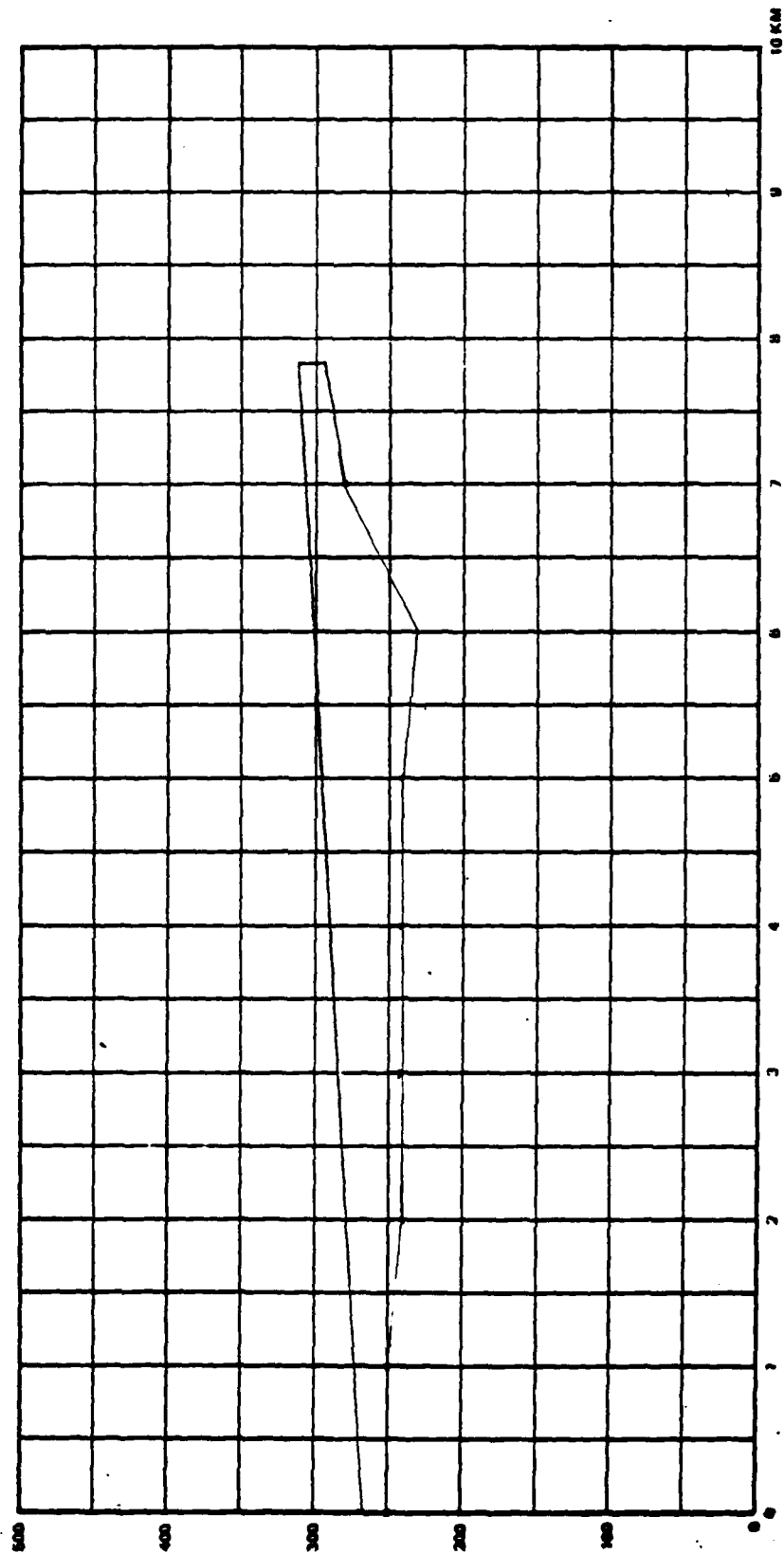
STATION Langerkopf

LATITUDE D 49 M 18 S 04
LONGITUDE D 07 M 50 S 39
ELEVATION 608 M
TOWER HEIGHT 20 M



STATION Ramstein
 LATITUDE D 49 M 27 S 04
 LONGITUDE D 07 M 35 S 04
 ELEVATION 250 M
 TOWER HEIGHT 20 M

1st repeater to
 STATION Lohensfeld
 LATITUDE D 49 M 29 S 24
 LONGITUDE D 07 M 40 S 20
 ELEVATION 297 M
 TOWER HEIGHT 20 M



1st repeater from

STATION Ramstein

LATITUDE D 49 M 29 S 24

LONGITUDE D 07 M 40 S 20

ELEVATION 297 M

TOWER HEIGHT 20 M

2nd repeater to

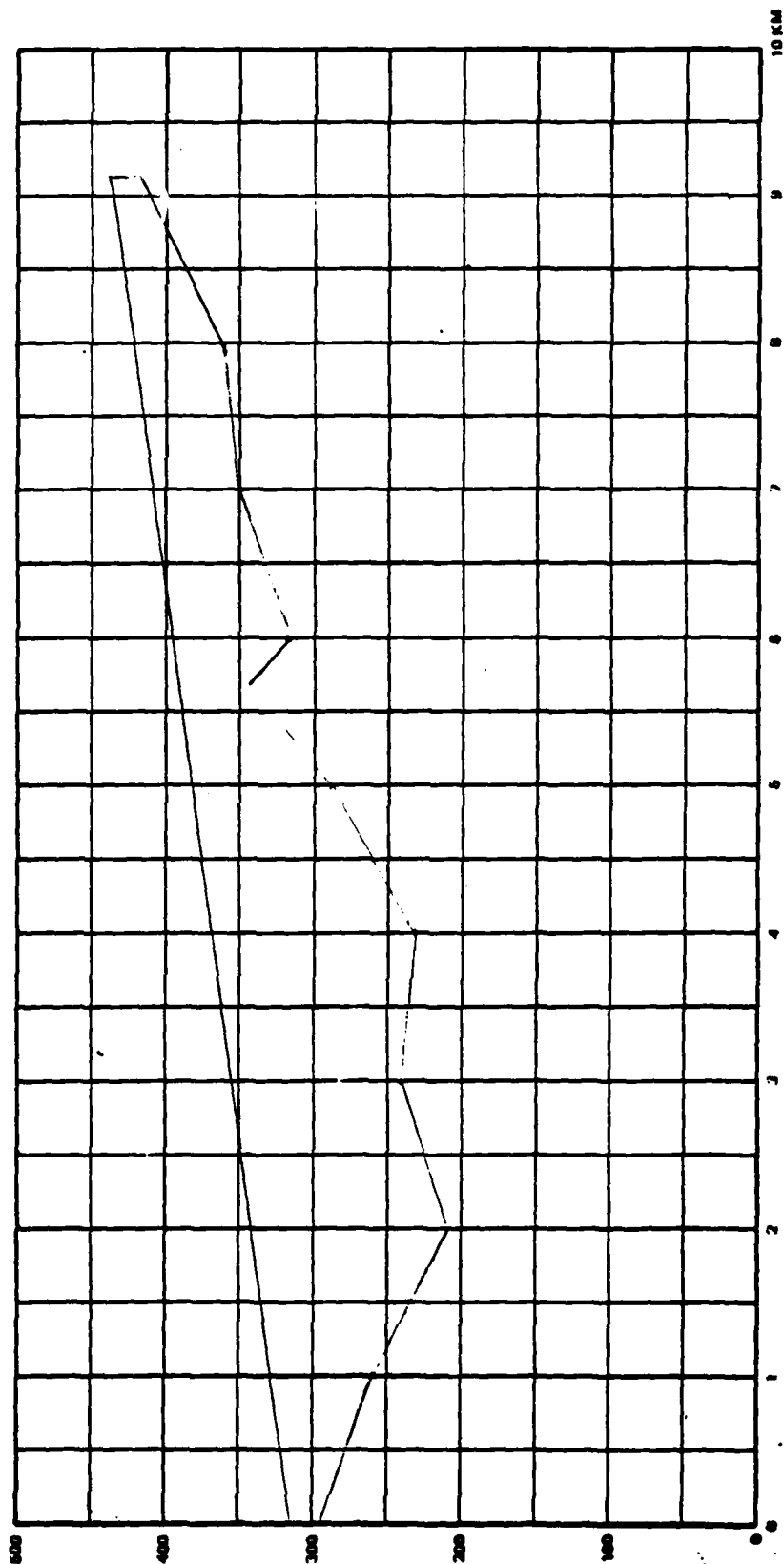
STATION Lohensfeld

LATITUDE D 49 M 32 S 35

LONGITUDE D 07 M 43 S 05

ELEVATION 420 M

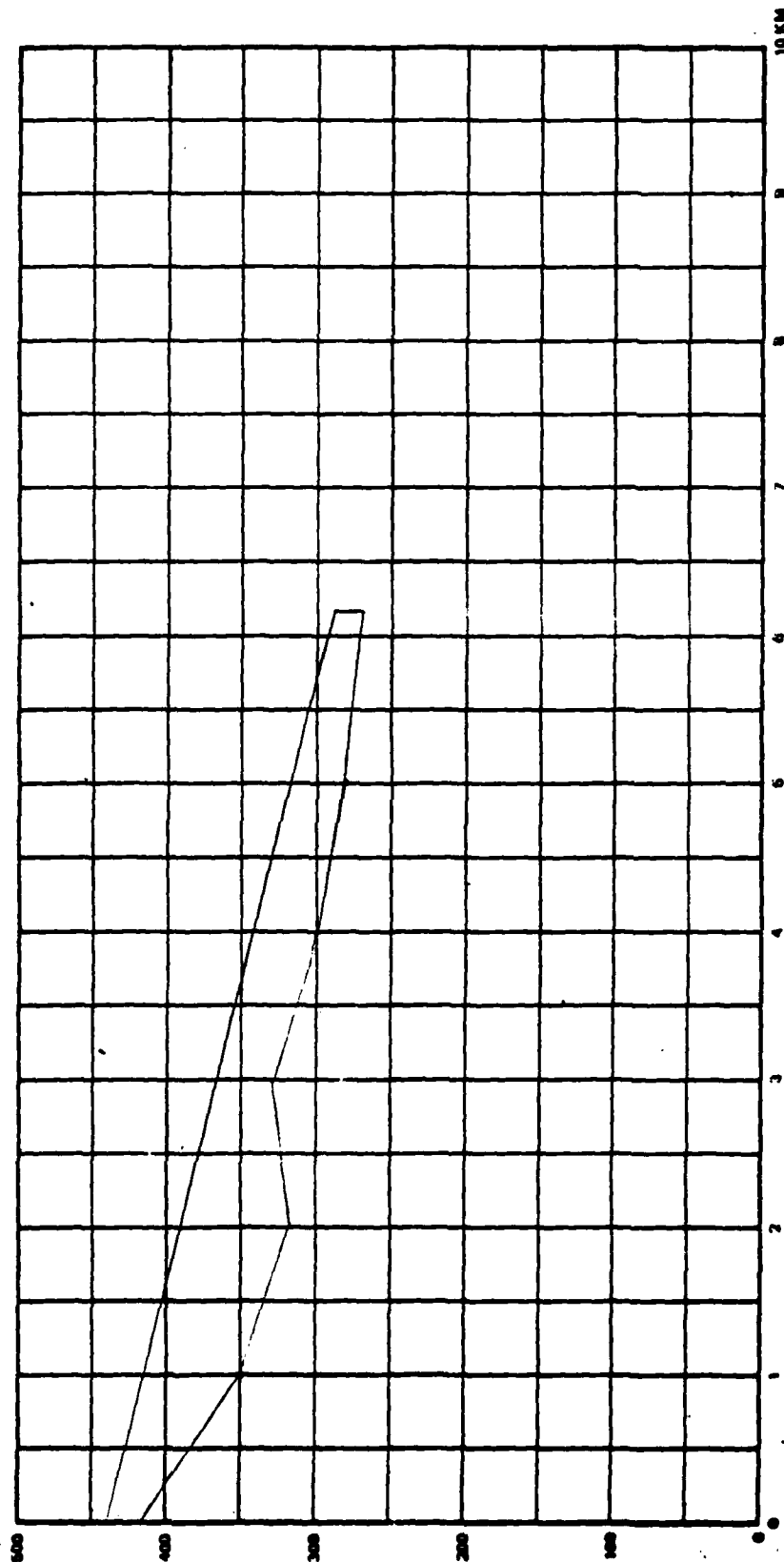
TOWER HEIGHT 20 M



2nd repeater from

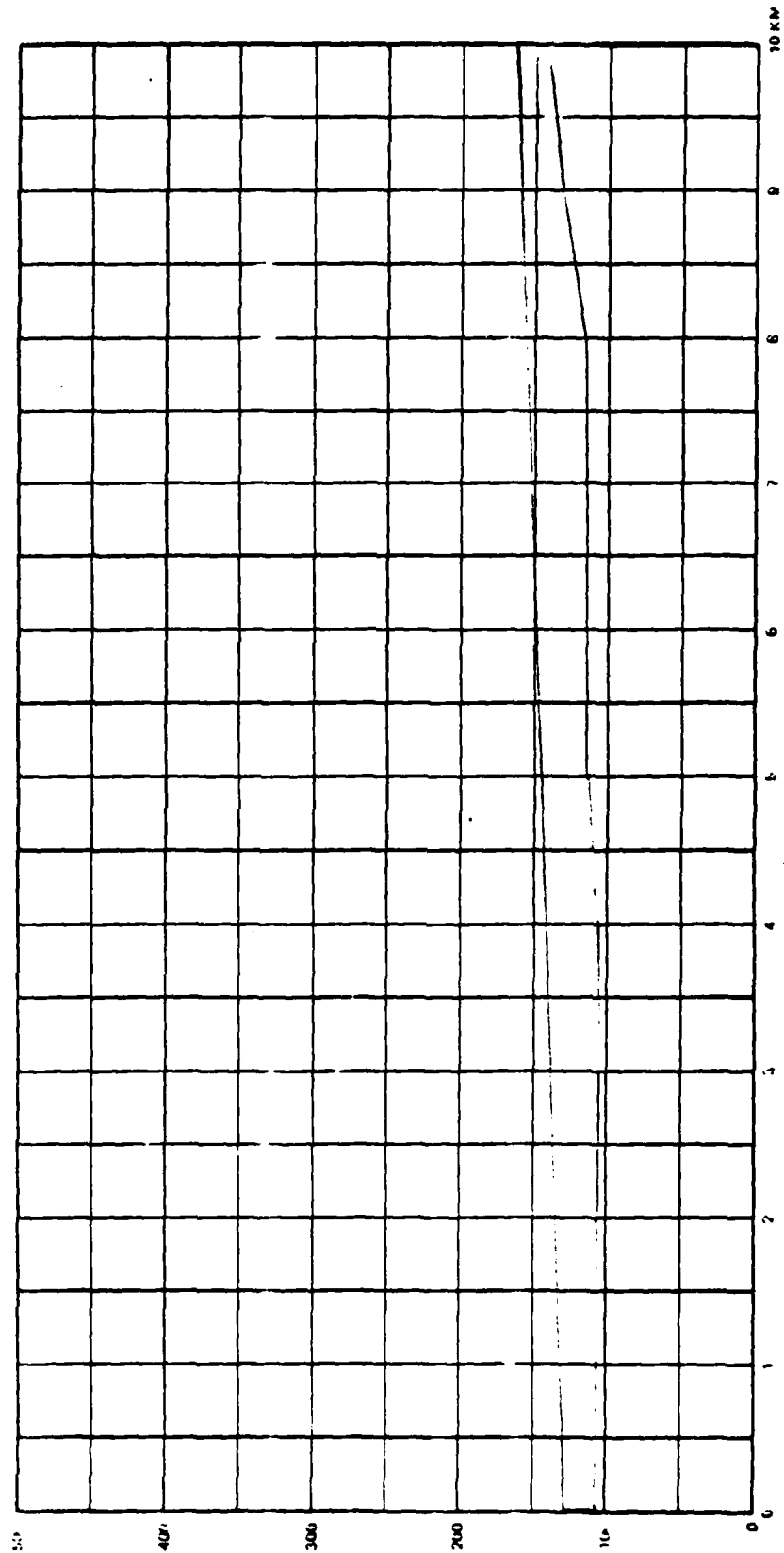
STATION Ramstein
 LATITUDE D 49 M 32 S 35
 LONGITUDE D 07 M 43 S 05
 ELEVATION 420 M
 TOWER HEIGHT 20 M

STATION Lohensfeld
 LATITUDE D 49 M 33 S 00
 LONGITUDE D 07 M 51 S 10
 ELEVATION 271 M
 TOWER HEIGHT 20 M



STATION Rhine Main
 LATITUDE D 50 M 01 S 51
 LONGITUDE D 08 M 34 S 55
 ELEVATION 108 M
 TOWER HEIGHT 20 M

1st repeater to
 STATION Darmstadt
 LATITUDE D 49 M 58 S 31
 LONGITUDE D 08 M 41 S 13
 ELEVATION 140 M
 TOWER HEIGHT 20 M



1st repeater from

STATION Rheine Main

LATITUDE D 49 M 58 S 31

LONGITUDE D 08 M 41 S 13

ELEVATION 140 M

TOWER HEIGHT 20 M

2nd repeater to

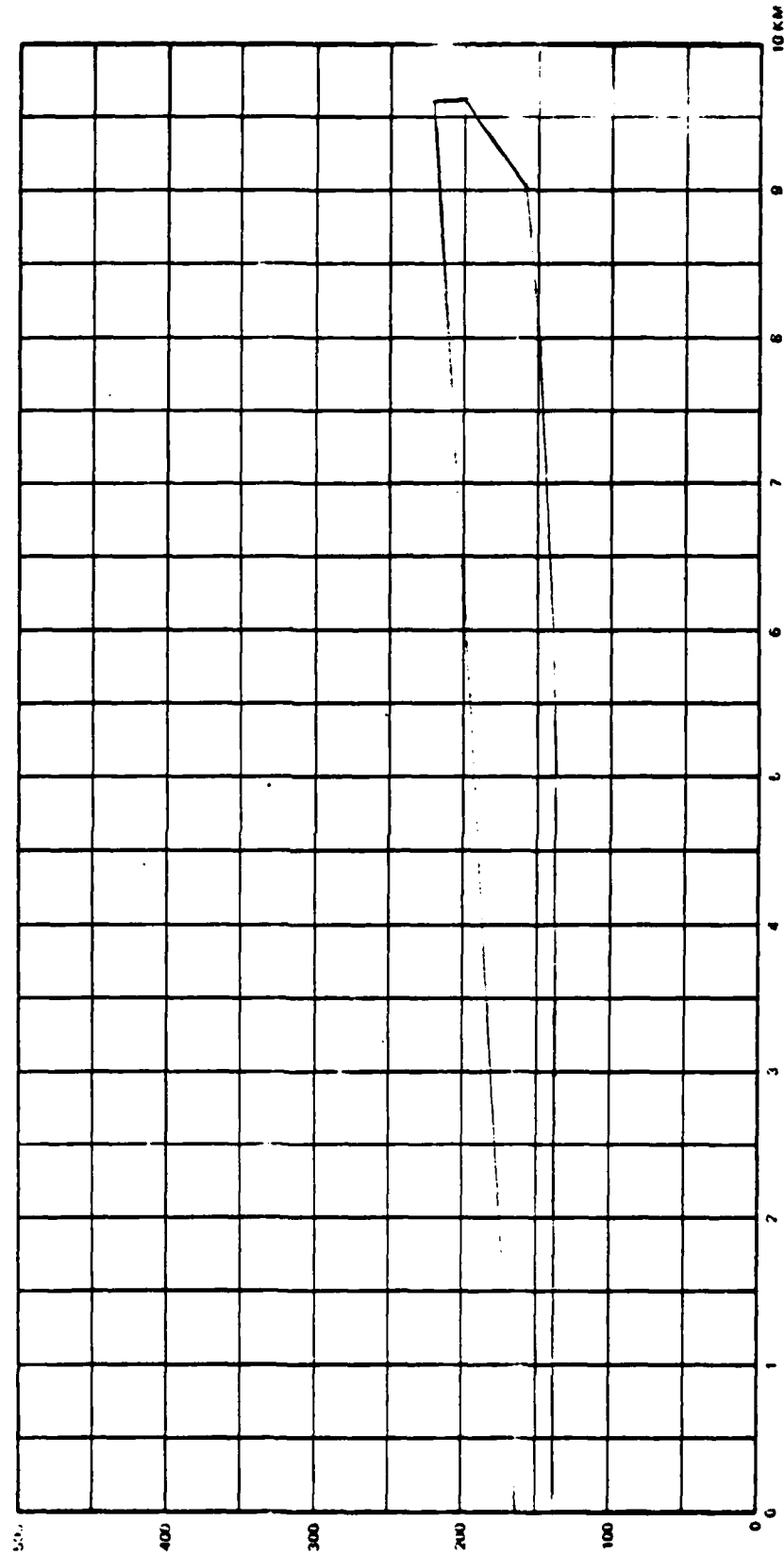
STATION Darmstadt

LATITUDE D 49 M 53 S 18

LONGITUDE D 08 M 41 S 14

ELEVATION 199 M

TOWER HEIGHT 20 M



2nd repeater from

STATION Rheine Main

LATITUDE D 49 M 53 S 18

LONGITUDE D 08 M 41 S 14

ELEVATION 199 M

TOWER HEIGHT 20 M

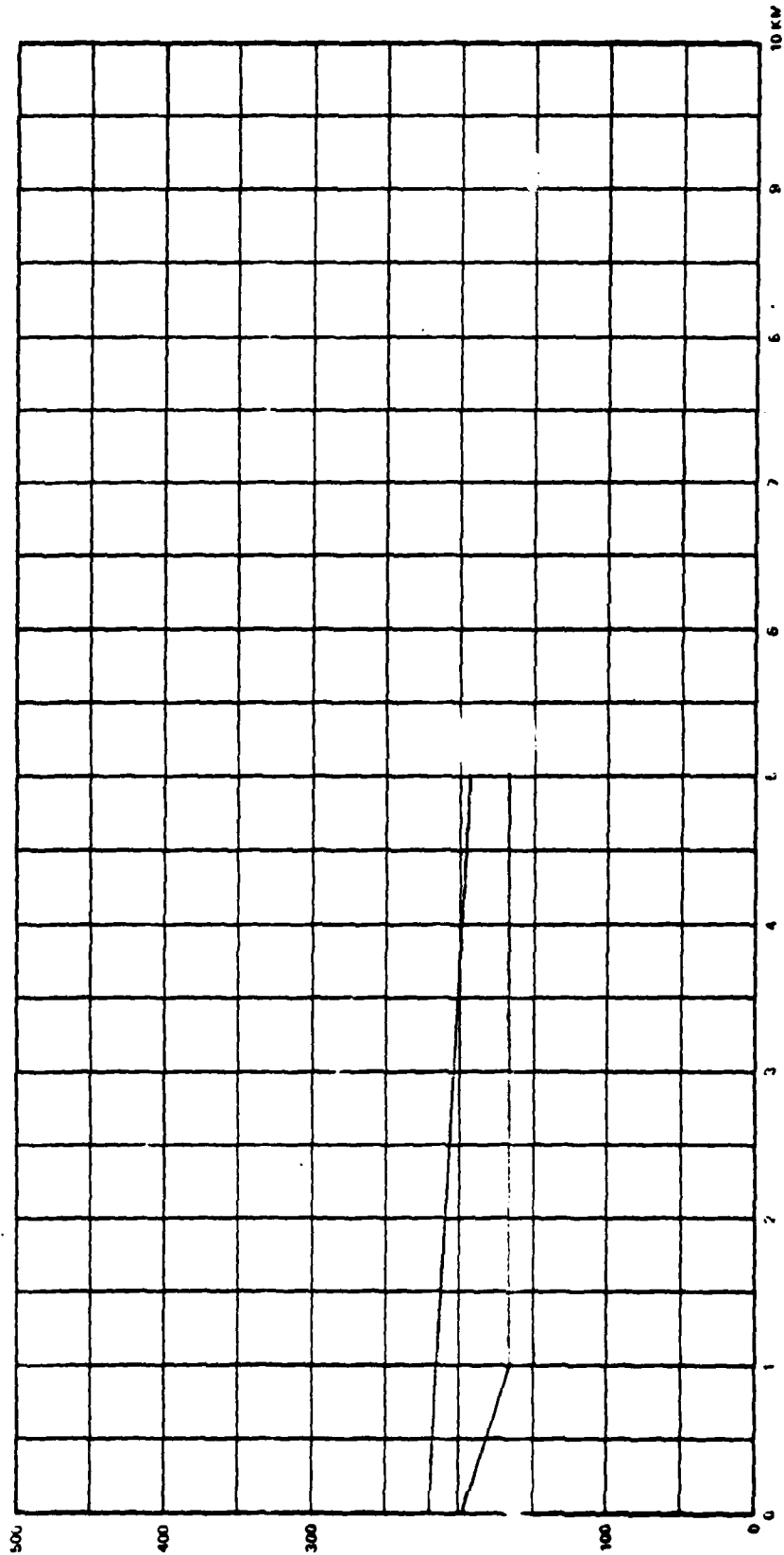
STATION Darmstadt

LATITUDE D 49 M 50 S 55

LONGITUDE D 08 M 39 S 19

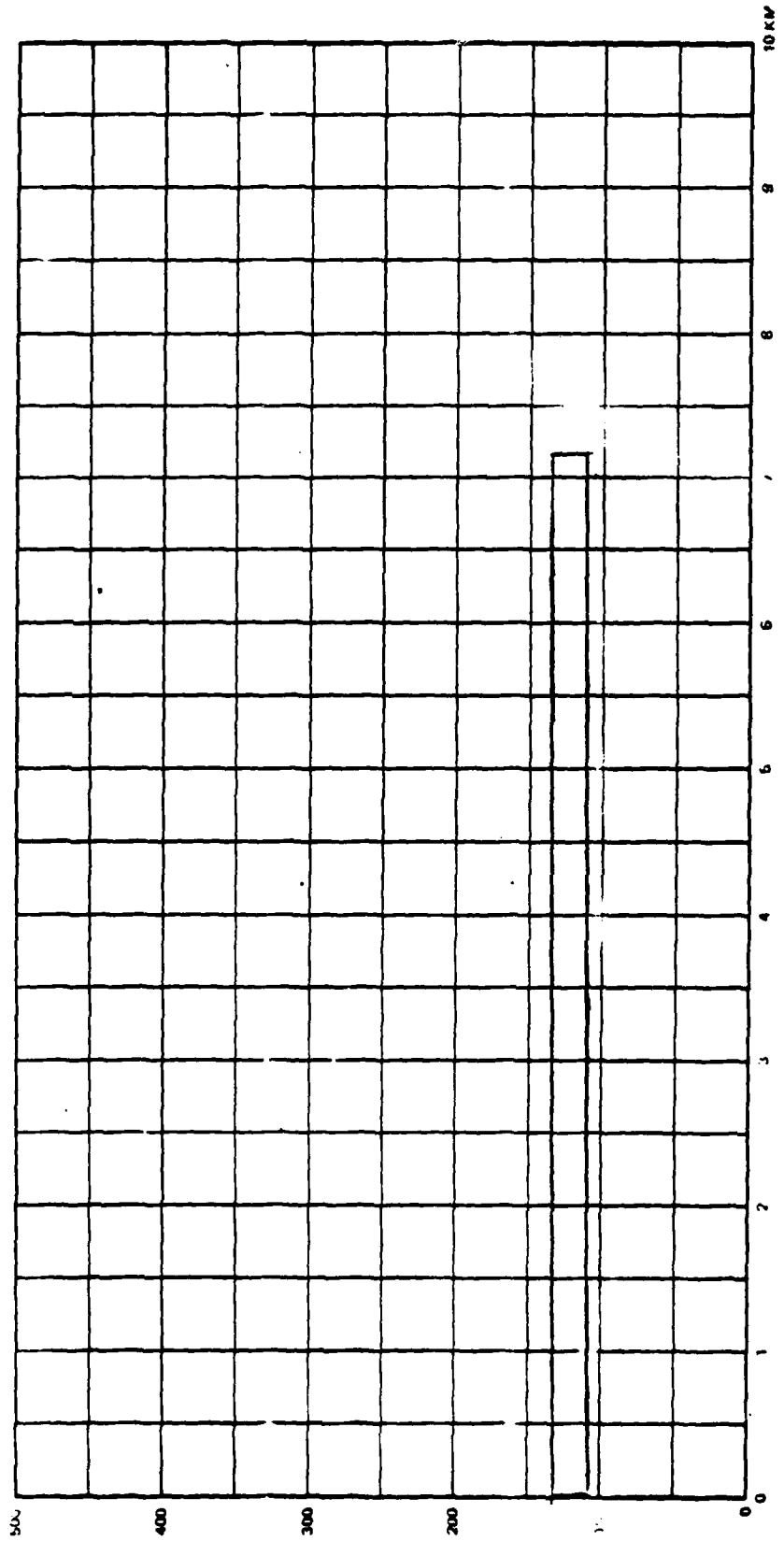
ELEVATION 170 M

TOWER HEIGHT 20 M



1st repeater to
 STATION Frankfurt
 LATITUDE D 50 M 04 S 33
 LONGITUDE D 08 M 39 S 20
 ELEVATION 113 M
 TOWER HEIGHT 20 M

STATION Rheine Main
 LATITUDE D 50 M 01 S 51
 LONGITUDE D 08 M 34 S 55
 ELEVATION 108 M
 TOWER HEIGHT 20 M



1st repeater from

STATION Rheine Main

LATITUDE D 50 M 04 S 33

LONGITUDE D 08 M 39 S 20

ELEVATION 113 M

TOWER HEIGHT 20 M

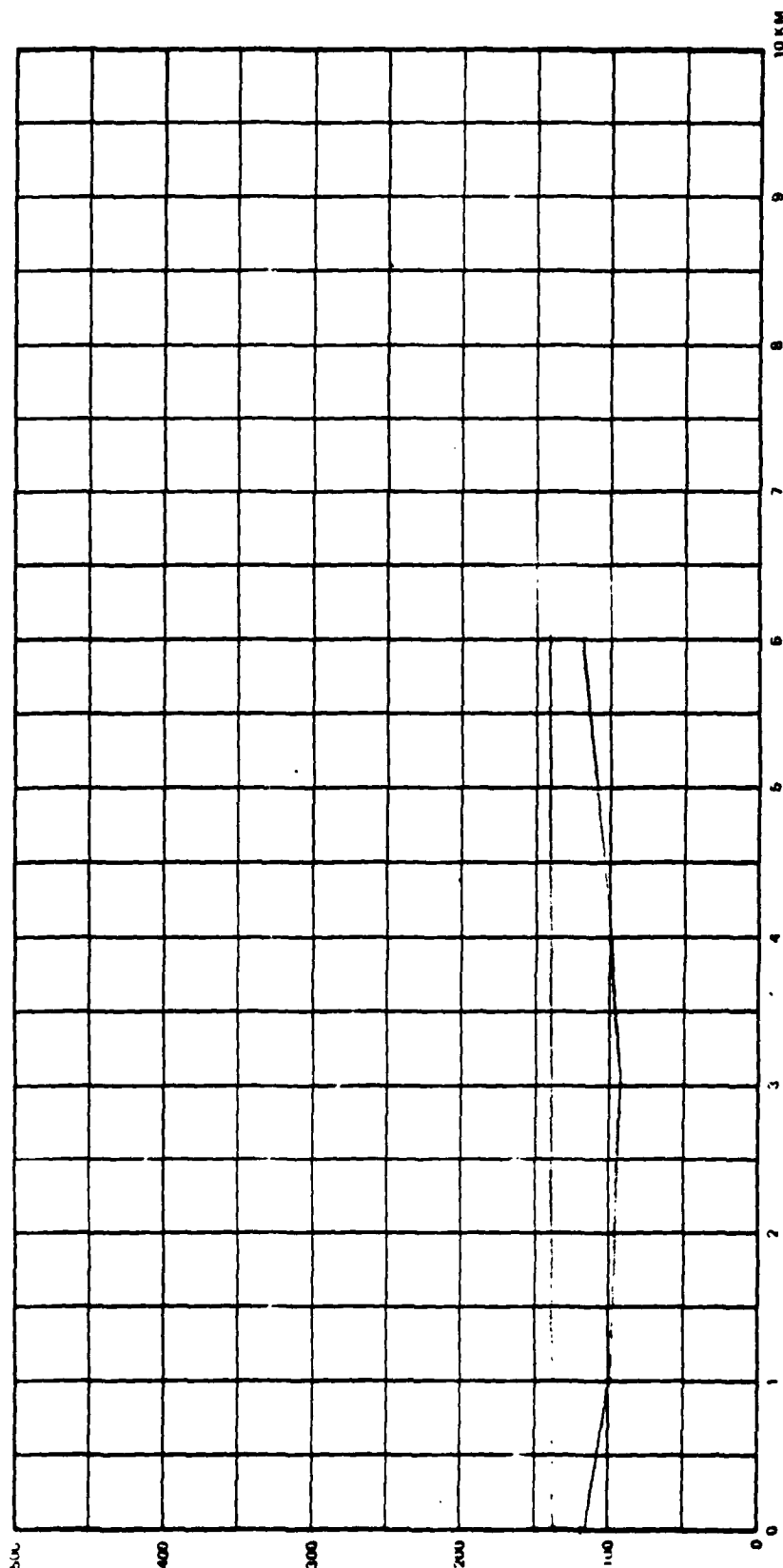
STATION Frankfurt

LATITUDE D 50 M 07 S 41

LONGITUDE D 08 M 40 S 15

ELEVATION 119 M

TOWER HEIGHT 20 M



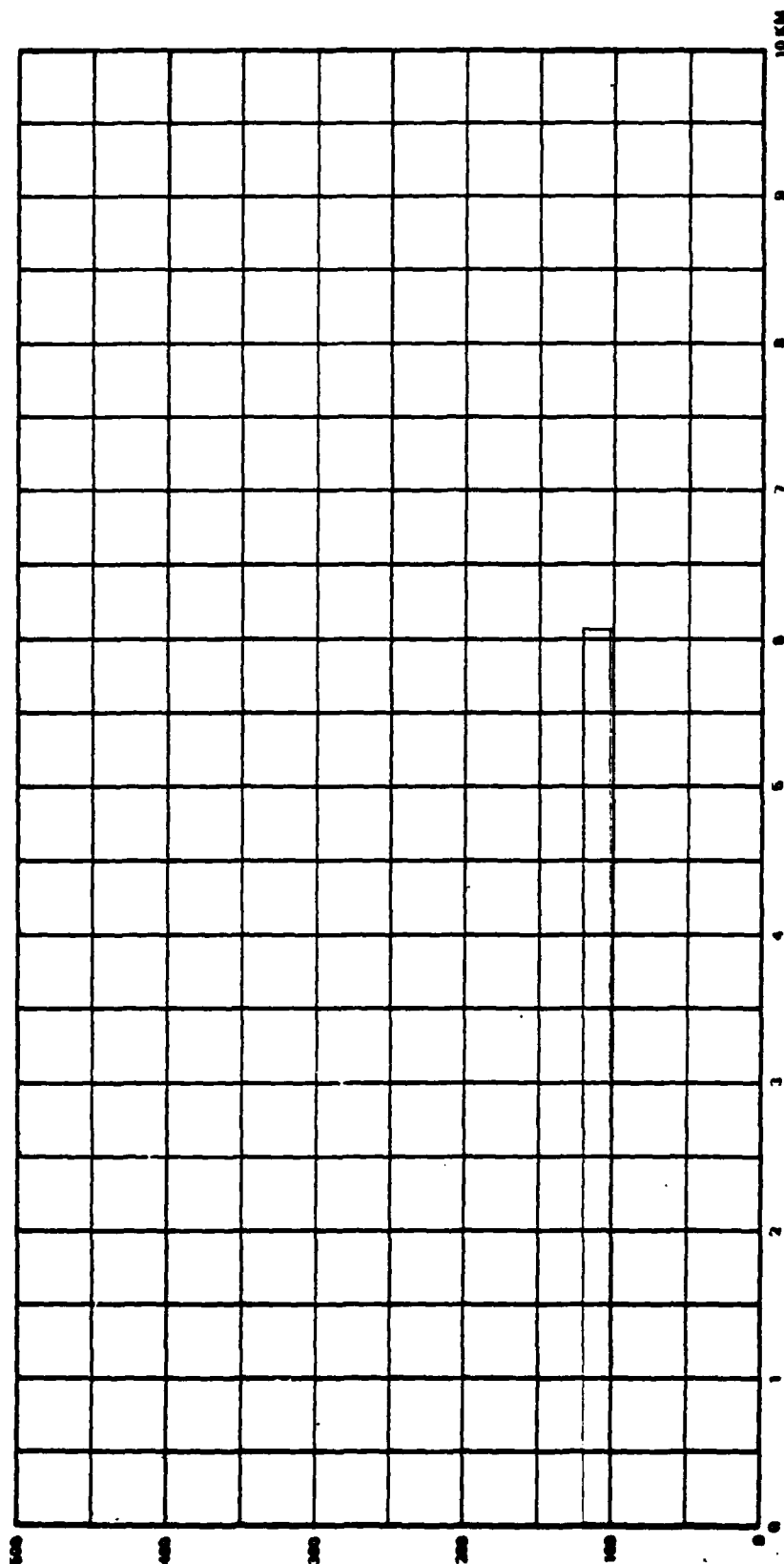
1st repeater from Koenigstuhl

STATION to Karlsruhe

LATITUDE D 49 M 38 S 50
LONGITUDE D 8 M 38 S 50
ELEVATION 103 M
TOWER HEIGHT 20 M

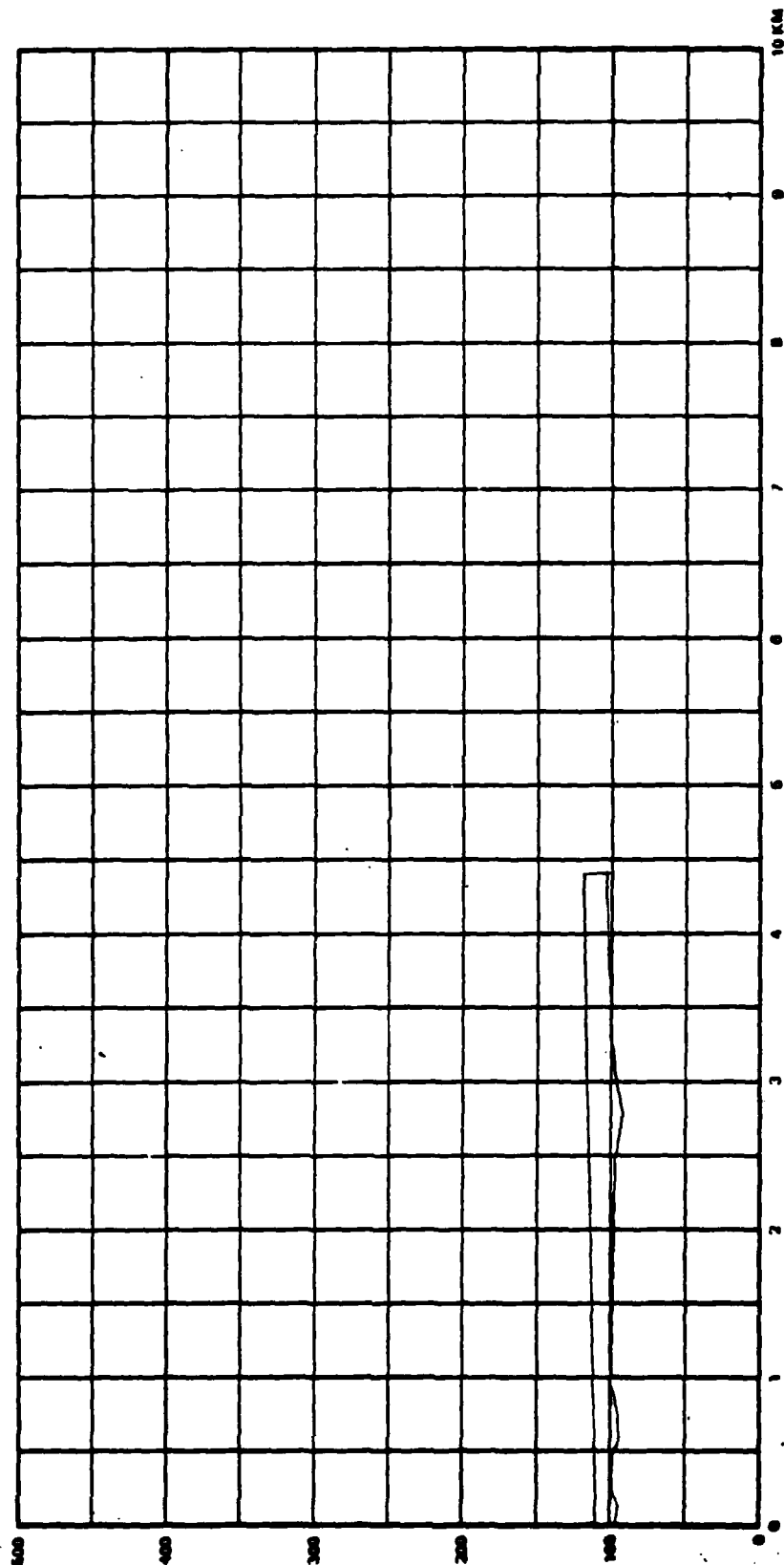
STATION Schwetzingen

LATITUDE D 49 M 24 S 31
LONGITUDE D 8 M 33 S 40
ELEVATION 100 M
TOWER HEIGHT 20 M



1st repeater to
 STATION Heidelberg
 LATITUDE D 49 M 28 S 05
 LONGITUDE D 8 M 37 S 43
 ELEVATION 103 M
 TOWER HEIGHT 20 M

STATION Seckenheim
 LATITUDE D 49 M 28 S 00
 LONGITUDE D 8 M 34 S 00
 ELEVATION 95 M
 TOWER HEIGHT 20 M

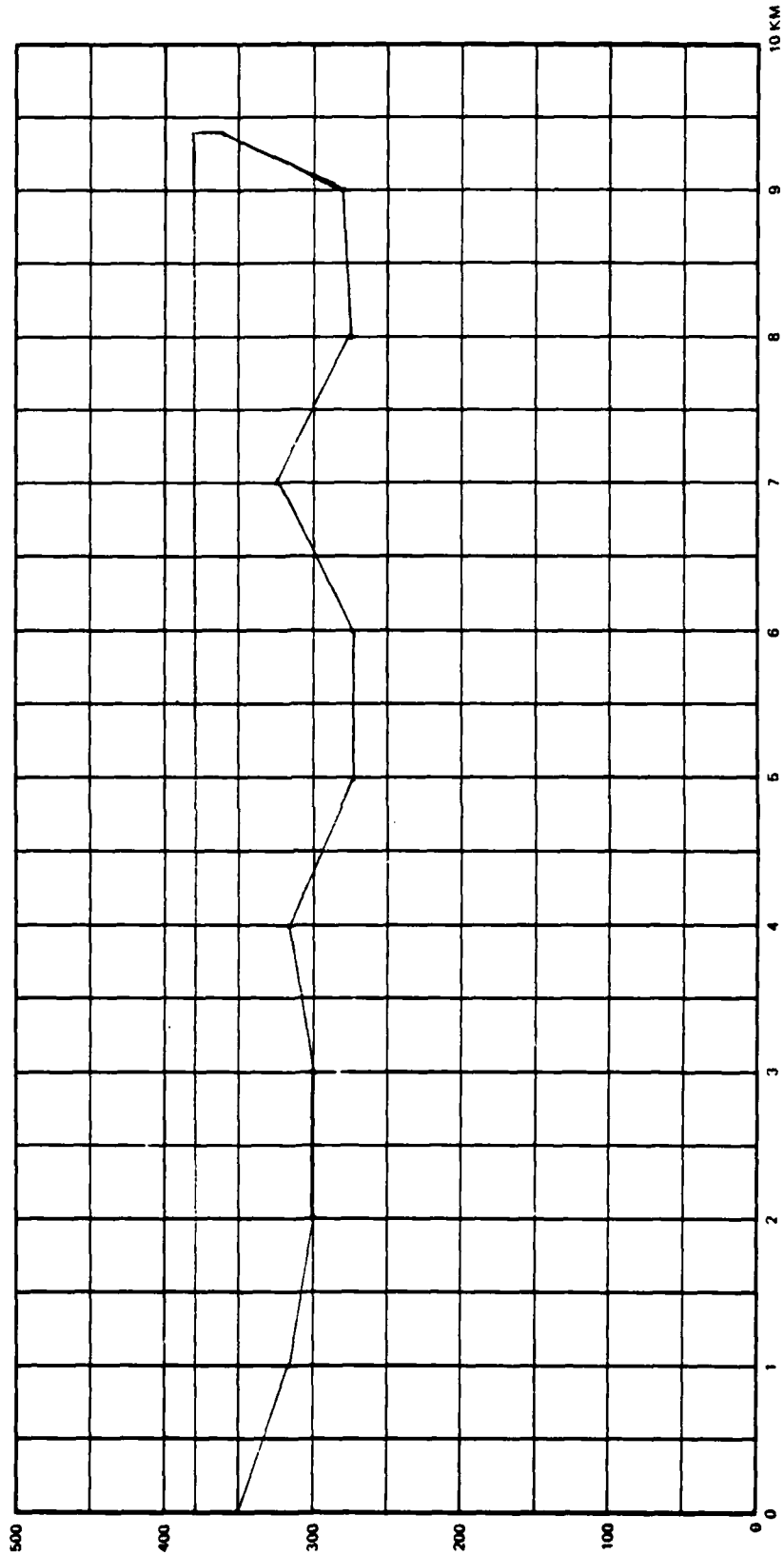


STATION Sembach

LATITUDE D 49 M 31 S 46
 LONGITUDE D 07 M 52 S 07
 ELEVATION 351 M
 TOWER HEIGHT 26 M

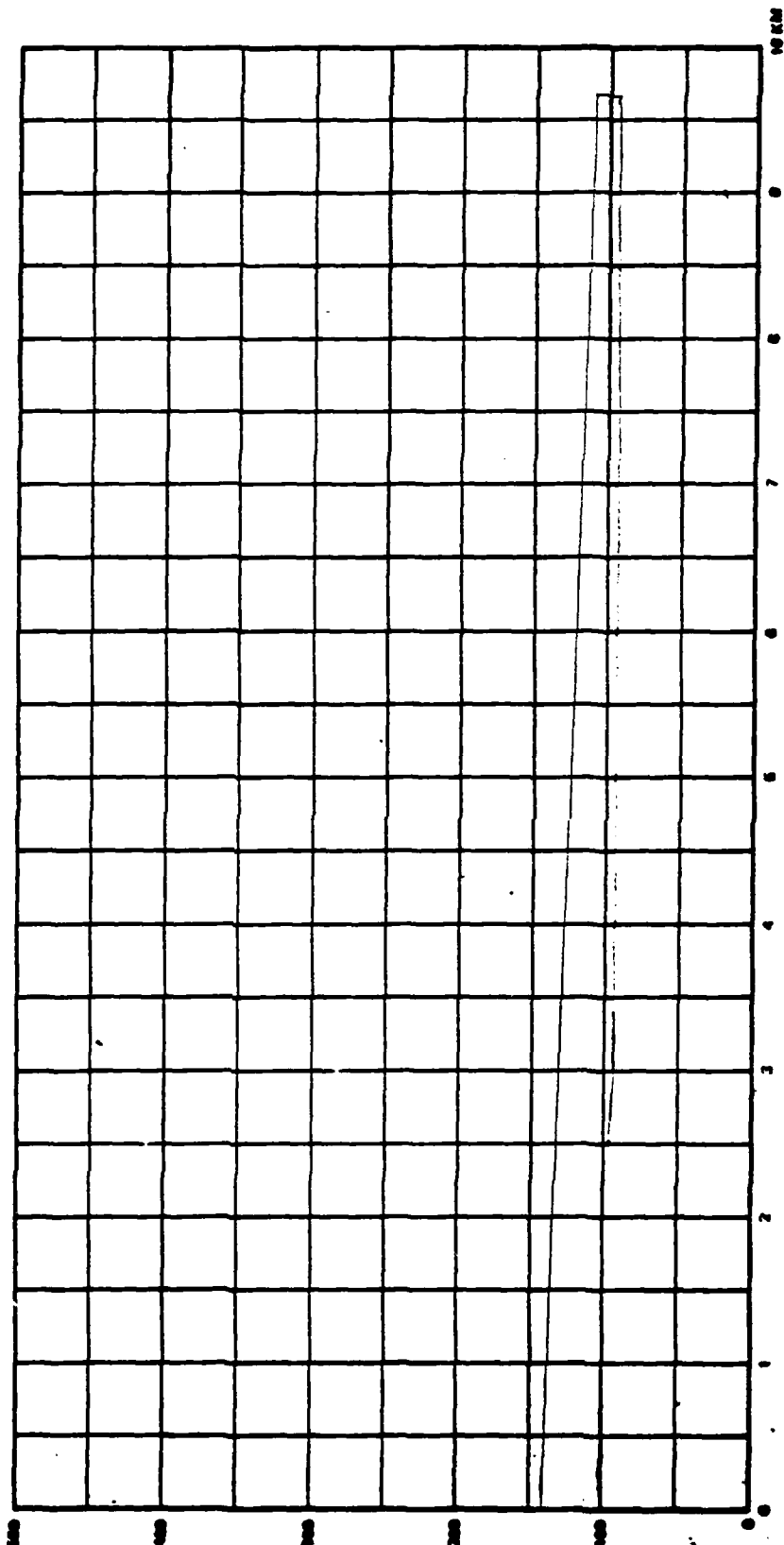
STATION Kaiserslautern

LATITUDE D 49 M 26 S 40
 LONGITUDE D 07 M 50 S 30
 ELEVATION 360 M
 TOWER HEIGHT 20 M



1st repeater to
 STATION Mannheim
 LATITUDE D 49 M 34 S 24
 LONGITUDE D 08 M 26 S 50
 ELEVATION 90 M
 TOWER HEIGHT 20 M

STATION Worms
 LATITUDE D 49 M 38 S 28
 LONGITUDE D 08 M 21 S 40
 ELEVATION 101 M
 TOWER HEIGHT 40 M



1st repeater from

STATION Worms

LATITUDE D 49 M 34 S 24

LONGITUDE D 08 M 26 S 50

ELEVATION 90 M

TOWER HEIGHT 20 M

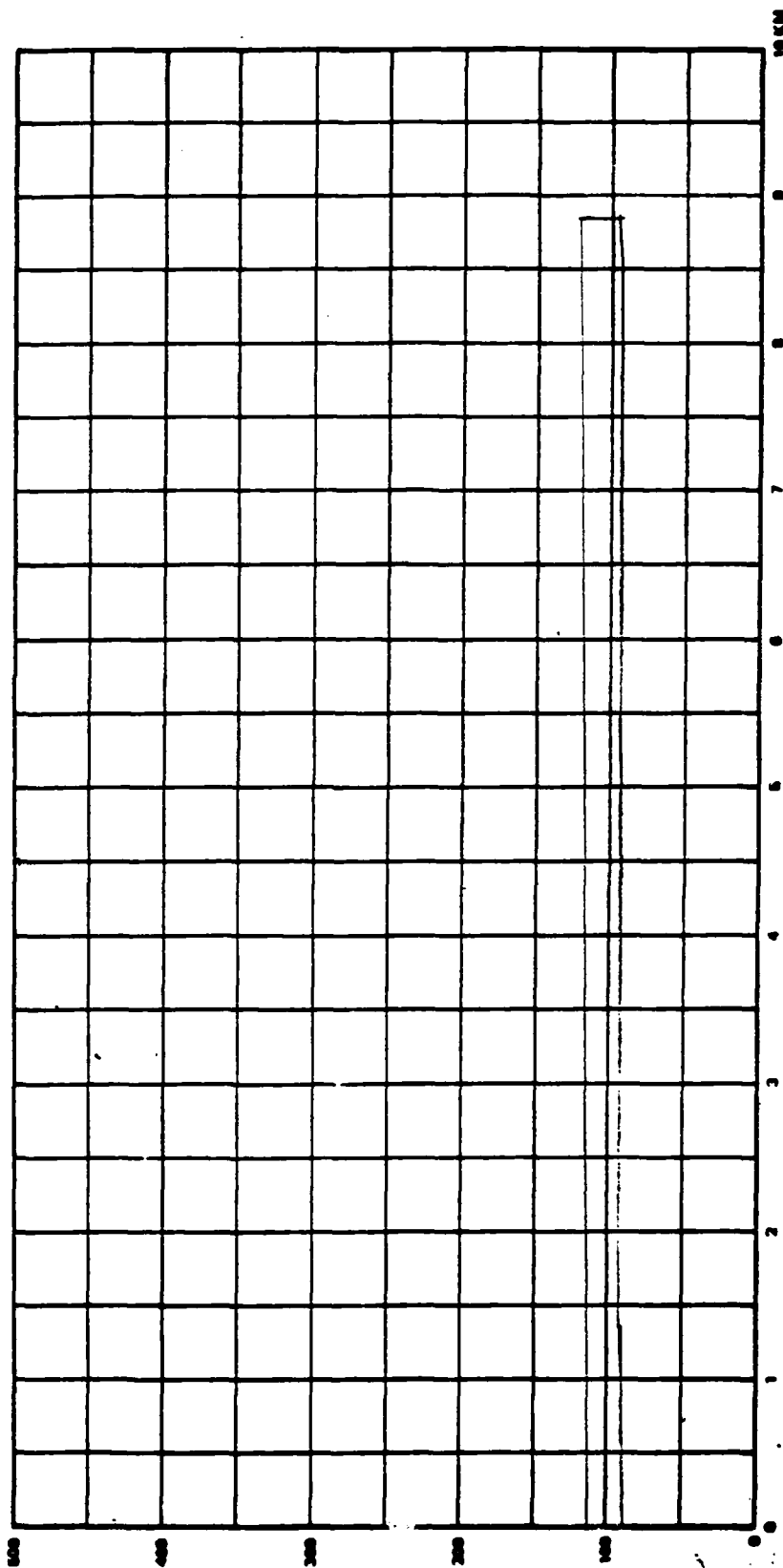
STATION Mannheim

LATITUDE D 49 M 30 S 59

LONGITUDE D 08 M 31 S 48

ELEVATION 97 M

TOWER HEIGHT 20 M



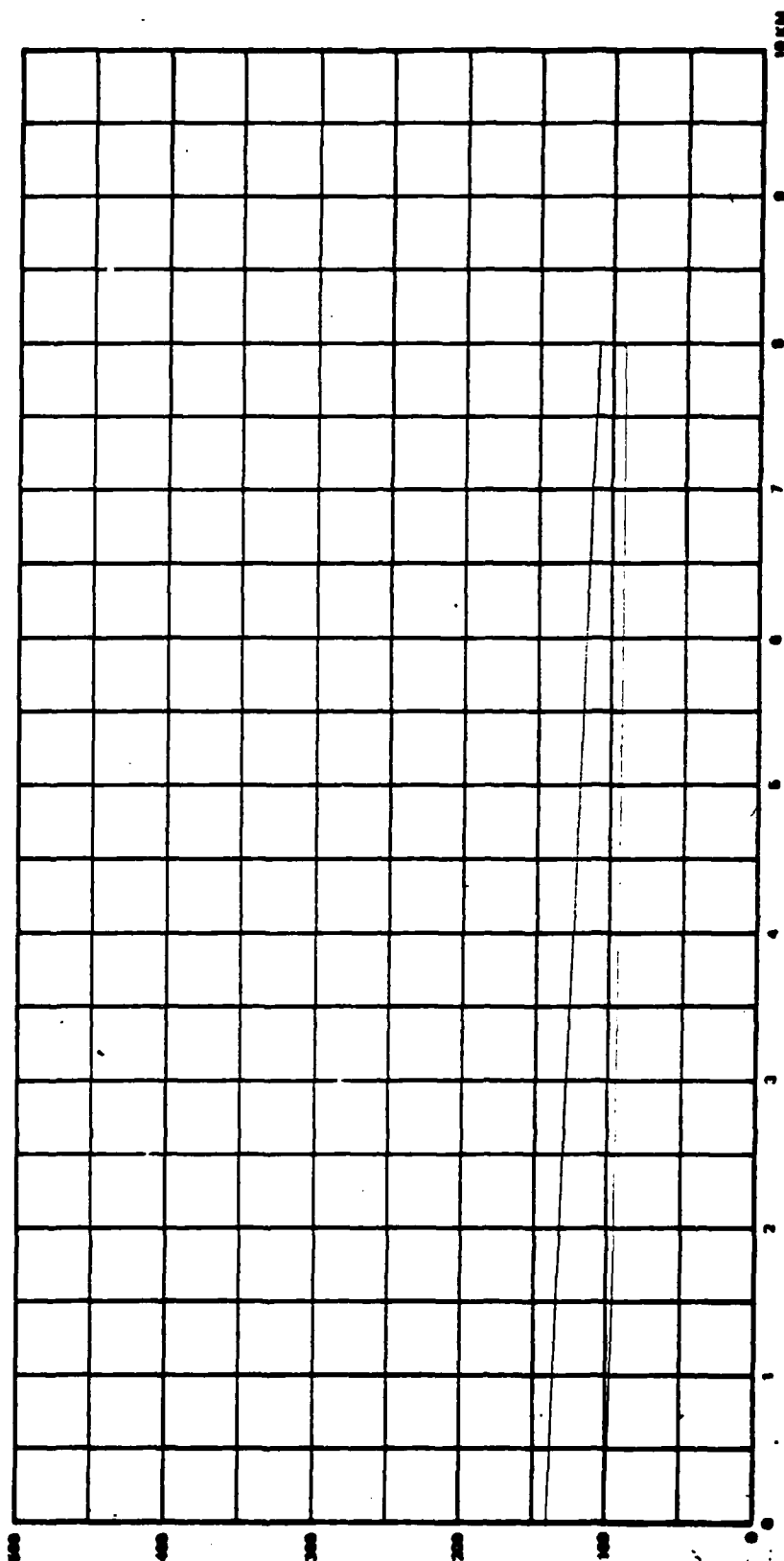
STATION Worms

LATITUDE D 49 M 38 S 28
LONGITUDE D 08 M 21 S 40
ELEVATION 101 M
TOWER HEIGHT 40 M

1st repeater to

STATION Melibocus

LATITUDE D 49 M 39 S 46
LONGITUDE D 08 M 28 S 01
ELEVATION 90 M
TOWER HEIGHT 20 M

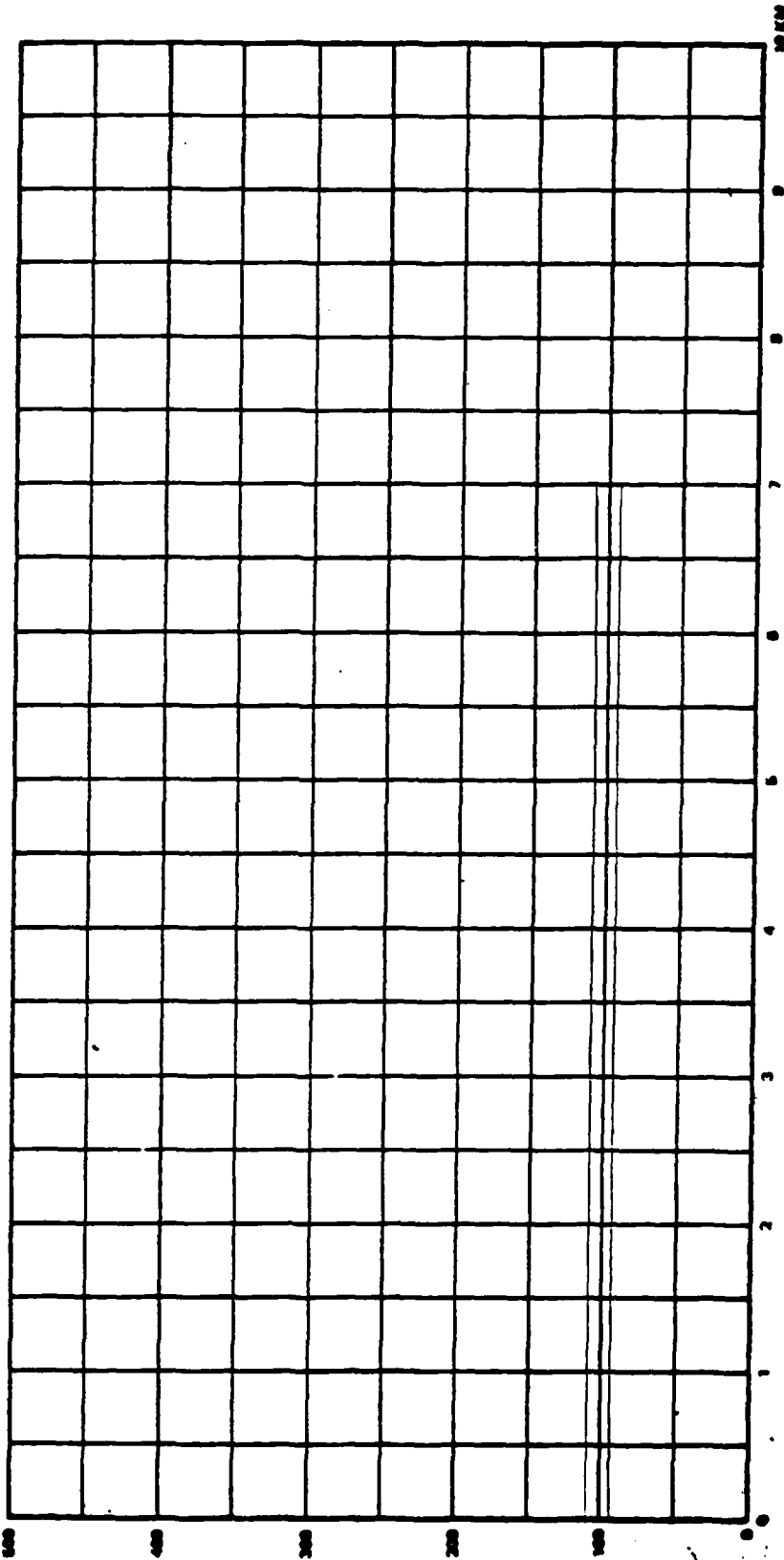


1st repeater from

STATION Worms
 LATITUDE D 49 M 39 S 46
 LONGITUDE D 08 M 28 S 01
 ELEVATION 90 M
 TOWER HEIGHT 20 M

2nd repeater to

STATION Melibocus
 LATITUDE D 49 M 41 S 10
 LONGITUDE D 08 M 33 S 20
 ELEVATION 90 M
 TOWER HEIGHT 20 M



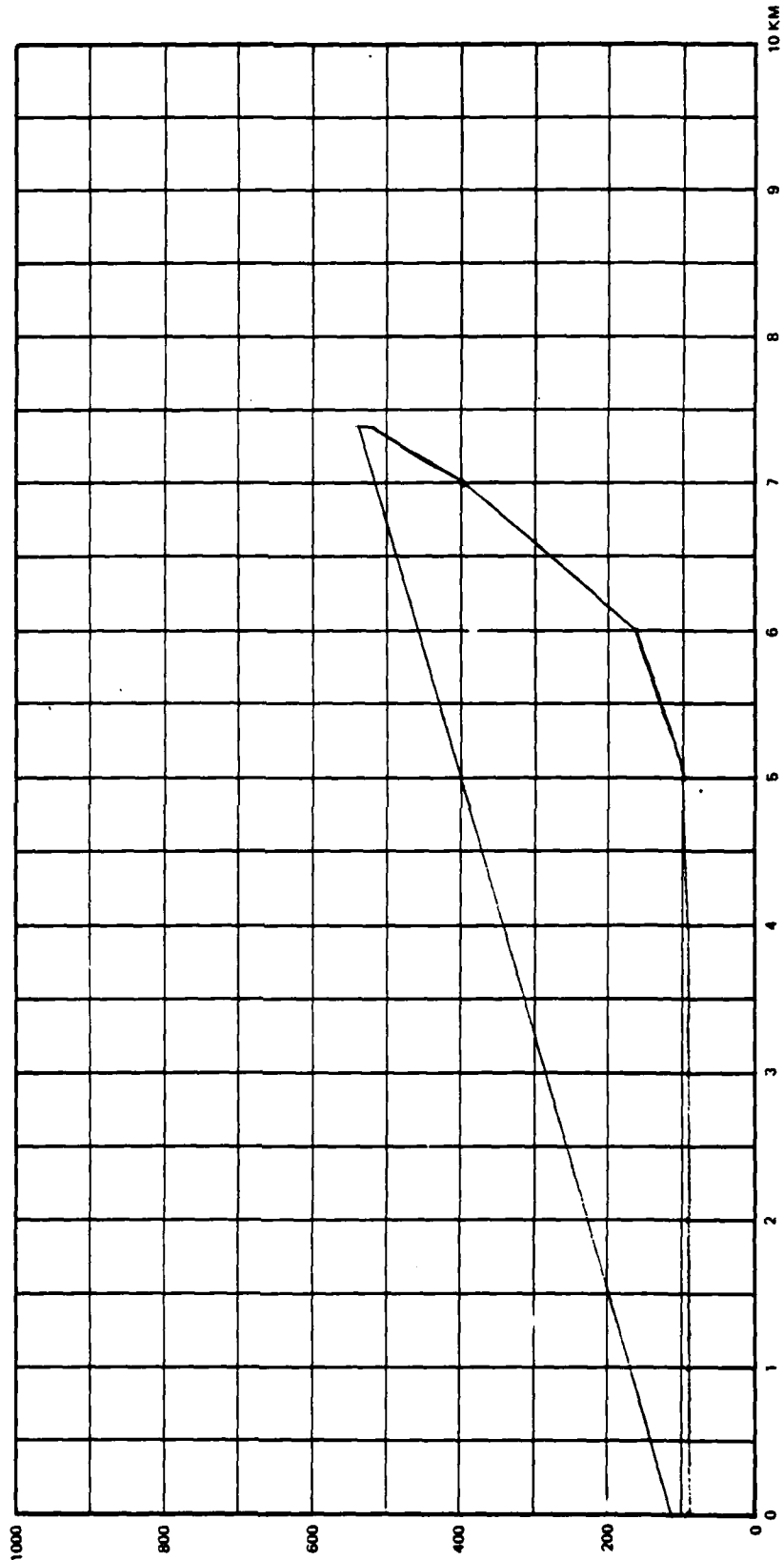
2nd repeater from

STATION Worms

LATITUDE D 49 M 41 S 10
 LONGITUDE D 08 M 33 S 20
 ELEVATION 90 M
 TOWER HEIGHT 20 M

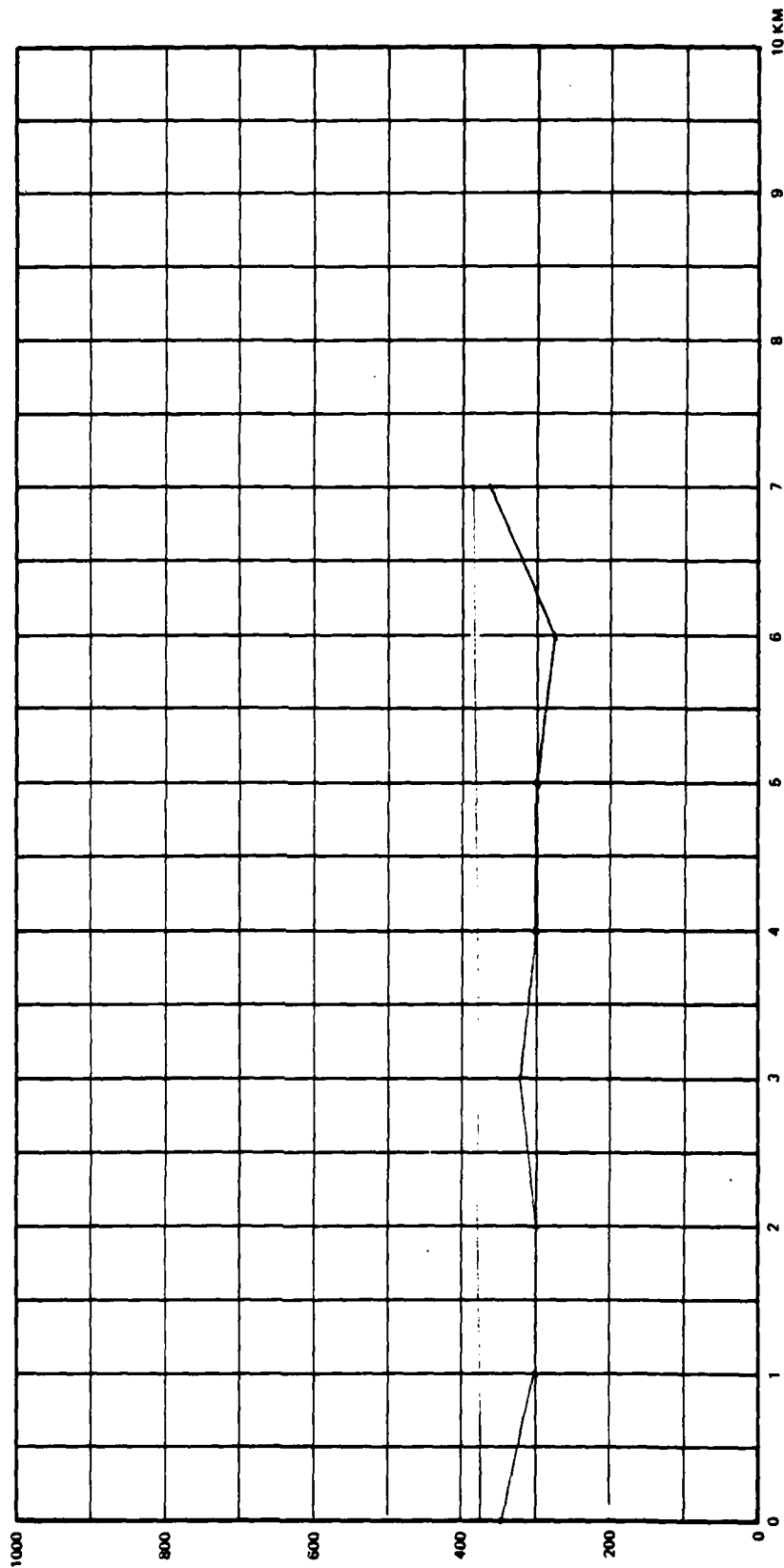
STATION Melibocus

LATITUDE D 49 M 43 S 32
 LONGITUDE D 08 M 38 S 17
 ELEVATION 516 M
 TOWER HEIGHT 20 M



1st repeater to
 STATION Langerkopf
 LATITUDE D 49 M 13 S 40
 LONGITUDE D 07 M 29 S 00
 ELEVATION 365 M
 TOWER HEIGHT 20 M

STATION Zweibrucken (AF)
 LATITUDE D 49 M 13 S 48
 LONGITUDE D 07 M 24 S 02
 ELEVATION 345 M
 TOWER HEIGHT 30 M



1st repeater from

STATION Zweibrücken (AF)

LATITUDE D 49 M 13 S 40

LONGITUDE D 07 M 29 S 00

ELEVATION 365 M

TOWER HEIGHT 20 M

2nd repeater to

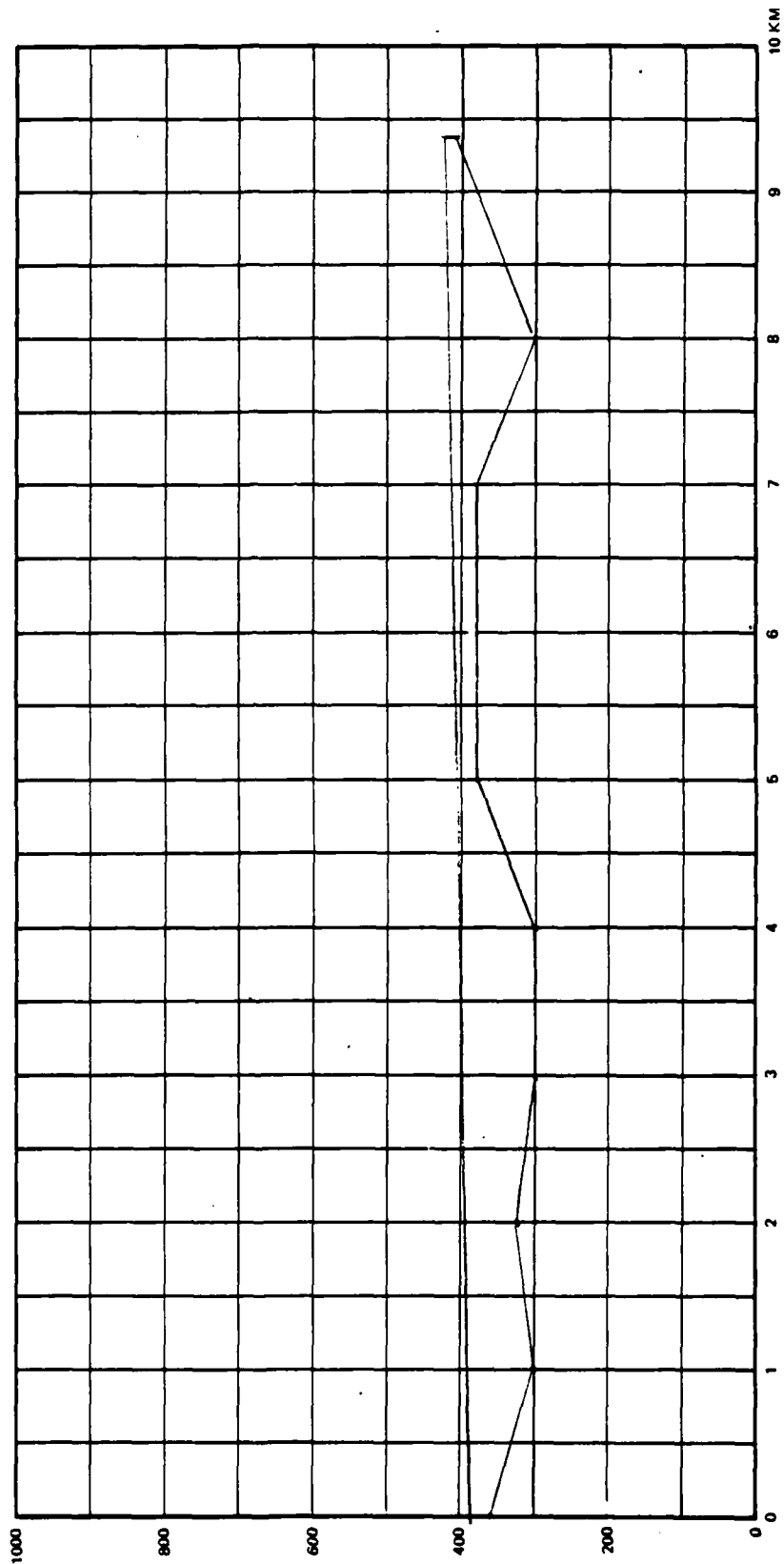
STATION Langerkopf

LATITUDE D 49 M 14 S 10

LONGITUDE D 07 M 36 S 20

ELEVATION 405 M

TOWER HEIGHT 20 M

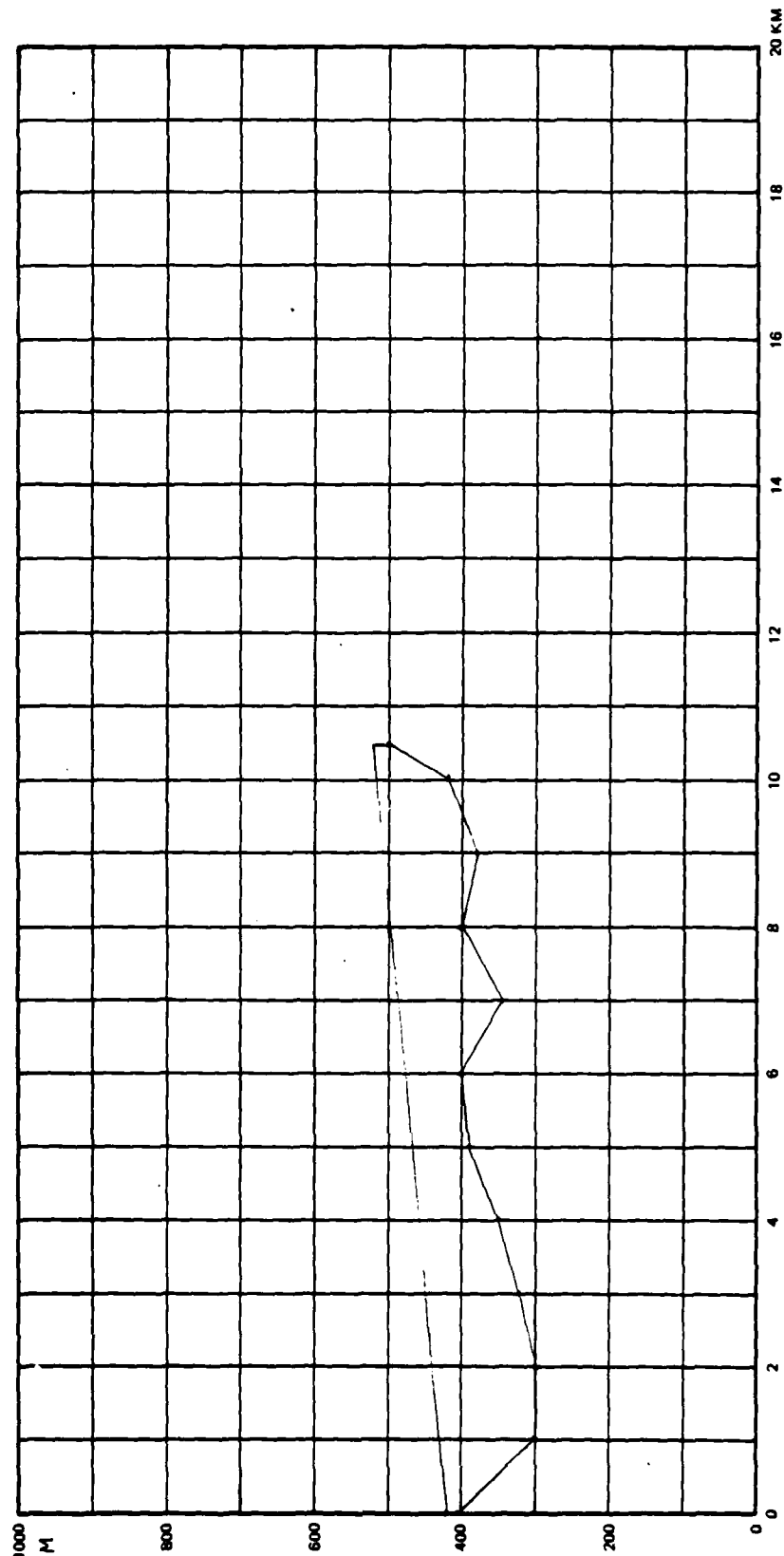


straight to Langerkopf
from 2nd repeater
3rd repeater to

STATION Langerkopf
LATITUDE D 49 M 15 S 30
LONGITUDE D 07 M 44 S 30
ELEVATION 501 M
TOWER HEIGHT 20 M

2nd repeater from

STATION Zweibrücken (AF)
LATITUDE D 49 M 14 S 10
LONGITUDE D 07 M 36 S 20
ELEVATION 405 M
TOWER HEIGHT 20 M



3rd repeater from

STATION Zweibrücken (AF)

LATITUDE D 49 M 15 S 30

LONGITUDE D 07 M 44 S 30

ELEVATION 501 M

TOWER HEIGHT 20 M

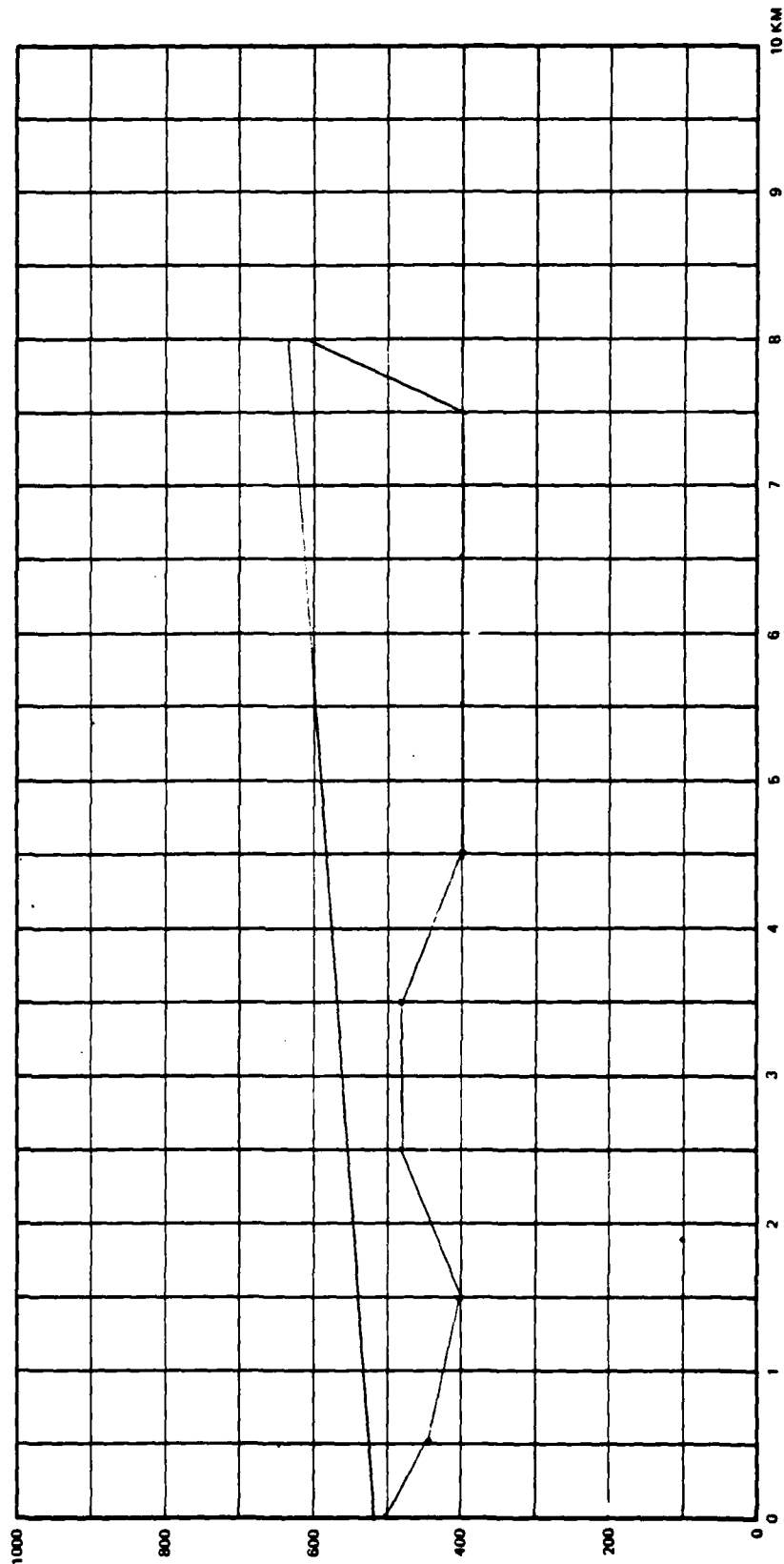
STATION Langerkopf

LATITUDE D 49 M 18 S 04

LONGITUDE D 07 M 50 S 39

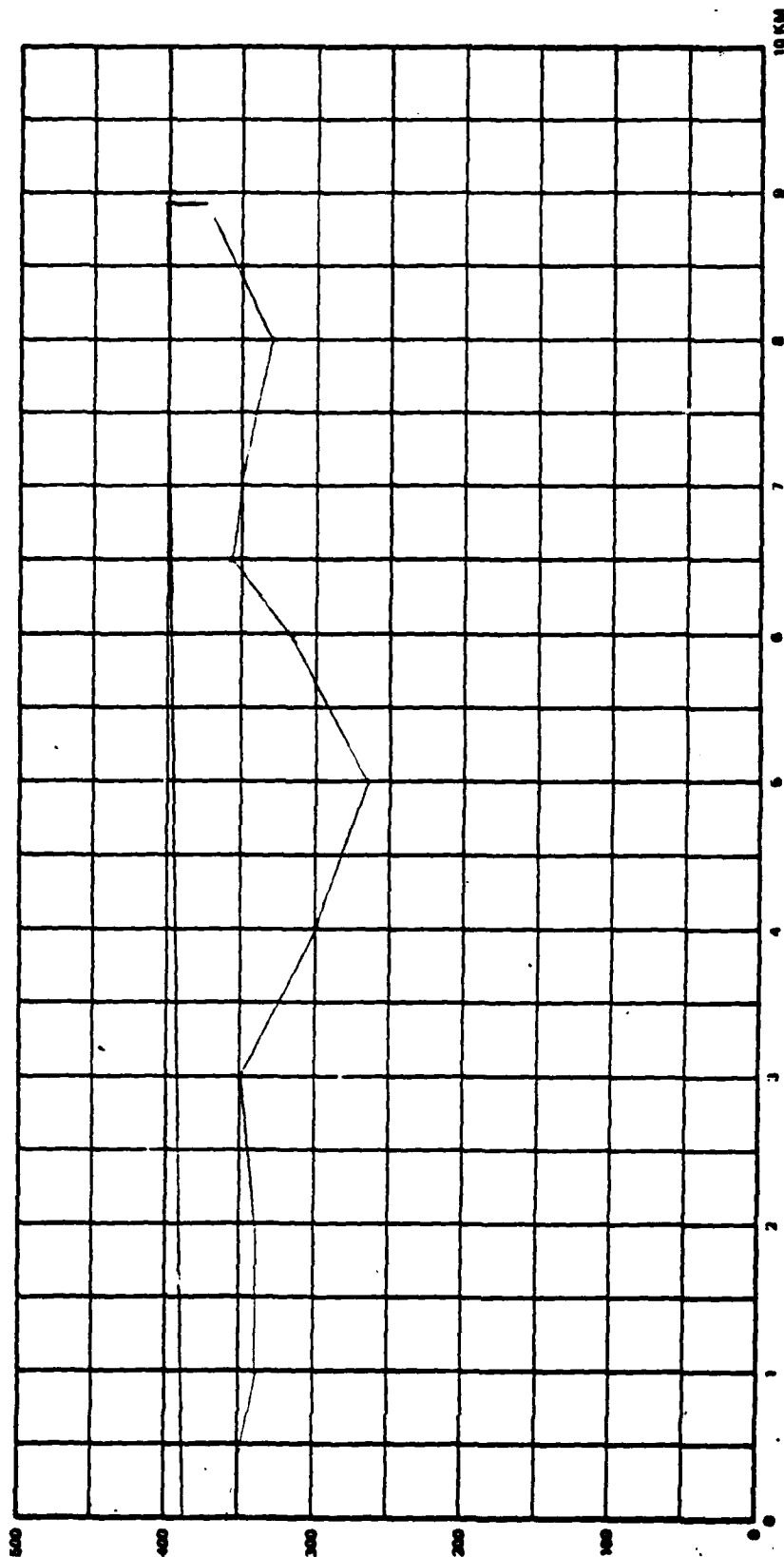
ELEVATION 608 M

TOWER HEIGHT 20 M



1st repeater to
 STATION Pirmasens
 LATITUDE D 49 M 13 S 18
 LONGITUDE D 07 M 30 S 45
 ELEVATION 373 M
 TOWER HEIGHT 30 M

STATION Zweibrücken (AF)
 LATITUDE D 49 M 13 S 48
 LONGITUDE D 07 M 24 S 02
 ELEVATION 355 M
 TOWER HEIGHT 30 M



1st repeater from

STATION Zweibrücken (AF)

LATITUDE D 49 M 13 S 18

LONGITUDE D 07 M 30 S 45

ELEVATION 373 M

TOWER HEIGHT 20 M

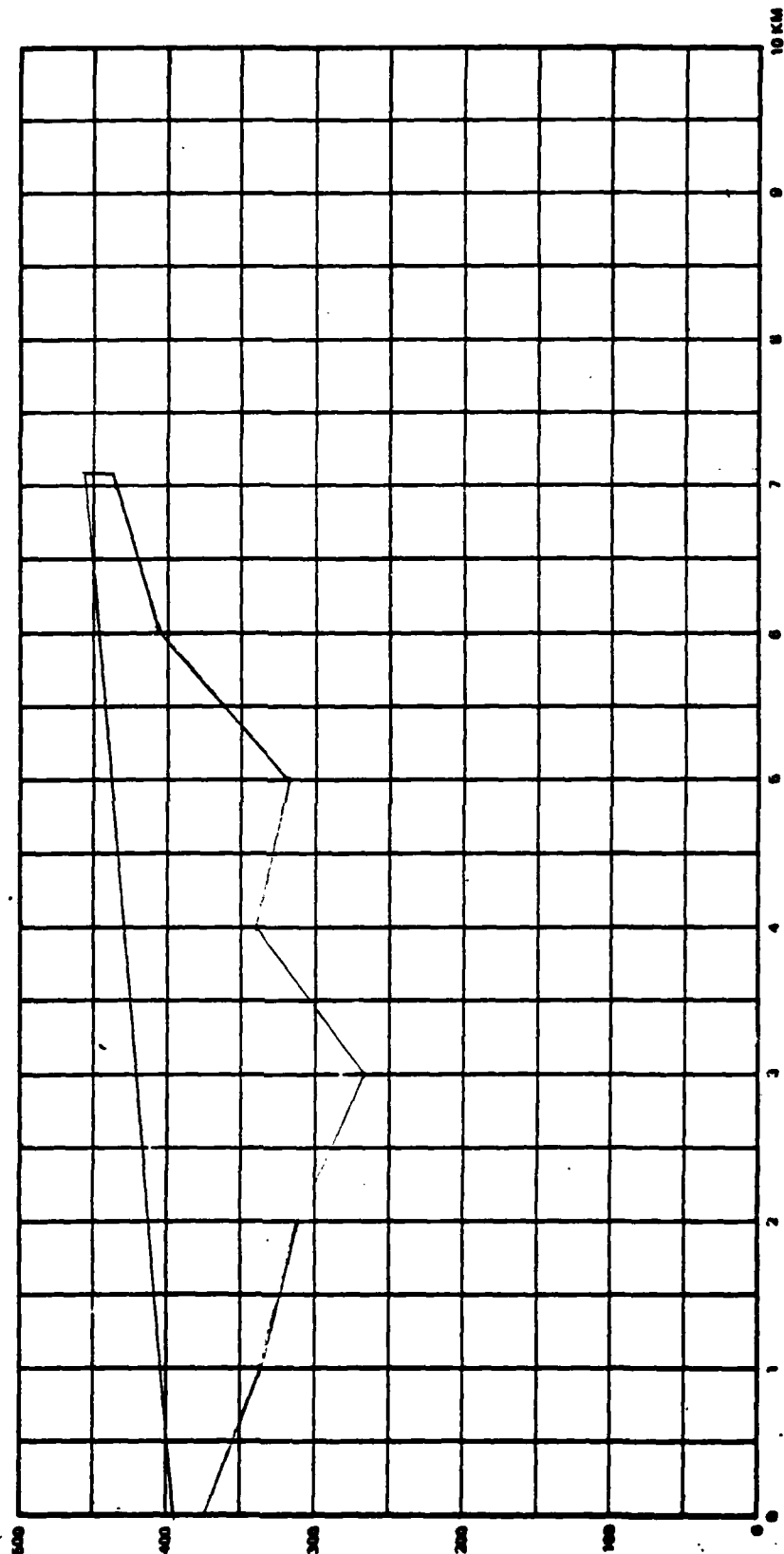
STATION Pirmasens

LATITUDE D 49 M 13 S 01

LONGITUDE D 07 M 36 S 35

ELEVATION 439 M

TOWER HEIGHT 20 M



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